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Attributions of responsibility for accidents involving personal injury: Application of Hart's (1968) 'Senses of Responsibility' model

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Attributions of Responsibility for Accidents Involving Personal Injury:

Application of Hart's (1968) 'Senses of Responsibility' Model

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Henry F. Kwiatkowski

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Application of Hart's (1968) 'Senses of Responsibility' Model

Abstract

The aim of this study was to use Hart's (1968) 'Senses of Responsibility' model as a theoretical framework to examine the effects of three non dispositional characteristics of an accident involving personal injury. An experimental approach based on a 2 Agent type (corporation v individual) x 2 Outcome severity (mild, severe) x 2 Victim type (primary, secondary) between subjects factorial design was adopted. The study interviewed 160 participants randomly selected at five public recreational centres. Three 2 x 2 x 2 ANOVA's, were conducted on the three attribution ratings to determine the influence of the three independent variables. The study found that people were influenced by the severity of outcome and the type of victim in making attributions of responsibility. The interaction found that as the severity level increased a higher level of responsibility was attributed to the agent for the accident in particular when it came to the secondary victim. When both victims sustained severe injuries the agent was held equally responsible for compensating both victims and was judged as almost equally responsible in terms of the duties and obligation owed the victims. Hart's (1968) model also showed that people make responsibility judgement in dimensions other than causation.

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Submitted: October, 2003

Declaration

I certify that this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any institution of higher education and that to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is

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3/10/2023

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INTRODUCTION

People's common sense responsibility attribution about accidents is a system in dynamic tension. It contains apparently contradictory impulses and is susceptible to being pulled in various directions on the basis of the many different factors involved in an accident scenario (Feigenson, 2000). Accidents represent human activities that have monetary and social costs on the parties involved and society in general. Making judgements about responsibility in person injury accidents is a pervasive feature of our social existence (Weiner,1985).

The 2002/2003 insurance crisis in Australia highlighted the importance of responsibility in the personal injury area, both legally and socially, and its impact on social life. How people attribute responsibility for accidents, in turn, affects how they behave towards others (Weiner,1985). Understanding how individuals make responsibility attributions and the factors influencing that process, will also assist decision makers in legislative and policy formulation. Studying attributions of responsibility in accident situations can provide an important insight into dealing and coping with their ramifications. It is important because it investigates where people focus their blame, anger and actions when faced with an accident. It also has implications for compensating victims in both moral and legal settings and preventing future occurrences.

Feigenson (2000), proposed four major factors influence people's thinking and discourse about attributing responsibility for accidents: (a) common sense; (b) the formal law, including substantive rules as well as legal procedures and institutions; (c) the thinking of experts such as judges that rule and produce case law; and, above all, (d) the facts of the case. It would not be surprising that common sense intuitions about responsibility varied in response to the facts of the case, at least as much as in response to any general demographic, attitudinal, cognitive, or emotional biases on the part of the decision maker making the attribution. Social psychological

research shows that the facts of a case are more important than extralegal biases, such as sympathy for the victim, in shaping peoples decisions about responsibility attributions (Wilson & Jonah, 1988).

Feigenson (2000) suggested that to best appreciate the multidimensional nature of responsibility attribution in accident cases, examining the facts of a case is the most important element. Facts of the case include examining the nature of the accidental event. For example, accidents arising from recreational activity, work activity, technological situations or acquired illnesses, such as environmental poisoning. The personal characteristics (non-dispositional) of the victim and the agent causing the injury include such factors as race, gender, socio-economic status and legal status (individual or corporation) are important case facts. The nature and severity of the outcomes is another important fact that influences people's judgements about accidents. For example, injury types can include physical and /or psychological injuries, loss of working capacity, pain and suffering.

Attribution theory and applied research has provided a rich framework to understanding how people explain events in terms of attributing causes and responsibility for personal injury accidents. The research has focused primary on dispositional characteristics of the observer, the target of the attributions also referred to as the causal agent, and the victim. To a lesser extent, studies have examined the influence of situational characteristics such as religious, political or environmental. Moghaddam (1998) observes that attribution theorists have tended to overlook the personal, non-dispositional characteristics of the parties involved, in particular when it comes to the agent causing the accident and the victim. These include factors such as age, gender, education level, employment status, physical versus psychological injuries (e.g., Reddy, Knowles, Mulvany, McMahon & Freckelton, 1997; Dennison & Thomson, 2000).

A small number of studies have investigated personal non-dispositional characteristics concerning the agent. (e.g., McKillip & Pasavac, 1974; Leigh & Aramburu, 1994; Susskind, Maurer, Thakkar, Hamilton, & Sherman, 1999; Kouabenan, Medina, Gilbert & Bouzon, 2001) These include characteristics such as pattern of drug use, history of violence, gender, employment status, criminal record status, socio-economic status and individual versus corporation, to name a few. These studies indicate that the personal characteristics (non-dispositional) of the agent causing the injury do influence on the observer's attributions of responsibility in an accident situation, however results are inconsistent.

Few studies in the accident attribution literature compare people's attributions of responsibility and how they differentiate between categories of causal agent (Moghaddam, 1998). The literature has focused mainly on accidents involving individuals, and how groups such as corporations or government bodies influence attributions has been limited. It has usually been presumed that the public advocate stronger sanctions and blame against corporate wrongdoing (Hans & Ermann, 1989). Public attitude towards instances or corporate versus individual wrongdoing are crucially important on both theoretical and practical grounds. On a theoretical level, analysis of judgements of corporate-verse-individual wrongdoing helps to illuminate how people consider the identity of the agent in making attributions or responsibility (Ermann & Lundman, 1985). Attitudes towards corporate wrongdoing are also important in the operation of the legal system. Prosecutors and judges consider public attitudes when deciding to charge or penalize a corporation for wrongdoing. This area is in need for further research.

The personal (non-dispositional) characteristics of the victim in an accident scenario have received even less attention. A few studies have investigated characteristics such as gender and physical appearance and their influence on judgements of responsibility (e.g., Leigh & Aramburu, 1994; Schroeder & Linder, 1976). One area lacking in research is in relation to the distinction between primary and secondary victims and its effect on attributions of responsibility. A secondary victim usually refers in the accident literature to a close family relative of the victim or an emergency worker who was at the seen of an accident (Mendelson, 1997).

A number of legal cases have established the importance of secondary victims, such as family members who suffer psychological trauma as a result of seeing or experiencing the suffering of a family member involved in an accident. For example, the parents suffering psychological trauma as a result of seeing their children injured in an accident (Annetts v Australian Stations Pty Limited (2002)), or the children who suffer trauma as a result of having a parent killed at work (Gilfford v Strang Patrick Stevedoring Pty Ltd (2003)). As victim characteristics are important case factors they require investigation with an attribution framework.

One factor that has received prominent attention in attribution research into accidents is the severity of the outcomes (Robbennolt, 2000). Outcome severity, in particular injury severity, has been found to have an overall significant influence on people's judgements of responsibility. Results however are inconsistent, but since it has been researched so extensively and is a good base-line factor, injury severity needs to be included in any study of accidents and attributions of responsibility (Robbennolt, 2000).

The theoretical framework underpinning much of attribution research was proposed by Heider (1958) and expanded by Jones and Davis (1965) and Kelley (1960). This approach has primarily focused on components of responsibility judgements such as foreseeability, locus of control and intention. Of those, Heider (1958) argued that 'intention' is the central factor for responsibility attribution. However, this treatment of responsibility attribution in accident research presented limitations.

Given the dependence on Heider's model, which is couched in terms of 'personal responsibility', it has limited generalizability beyond the study of interpersonal relations. This is one reason the research on attributions of responsibility has exhibited limitations in terms of the operationization of the responsibility construct. Responsibility has been used synonymously with causality and blame in many studies. Results are inconsistent in many areas of attribution research and the lack of validated instruments makes comparison of studies limited.

The legal scholar H.L.A.Hart provided a model that addresses some of the definitional limitations of previous studies. Hart (1968) proposed that responsibility is a multidimensional concept and that social entities may be asked to answer for their actions in different ways. Hart (1968) saw the terms 'responsibility', 'responsible' and 'responsible for' as used in and outside of the law in terms of a wide range of different, though connected ideas. He distinguished responsibility and its grammatical cognates and reduced them to a series of classifications based on legal principles and common-sense notions of responsibility. Three of these provide as basis for understanding responsibility attributions in accident scenarios; role, causal responsibility and liability or solution responsibility. This study will add to the theoretical framework of attribution literature by using Hart's (1968) model to examine the effect of a number of case factors on attributions of responsibility.

The aim of this study is to explore the effects of different types of victim and different types of agent on people's attributions of responsibility in a personal injury scenario. The severity of outcomes, in this context being severity of injuries, is included because this variable forms such an important factor in accident scenarios both theoretically and practically. The study will also examine any interactions that may arise from the manipulation in these three variables.

This paper will outline the major theories in attribution research and the attribution biases that are relevant to the area of accident attribution research. Literature pertaining to the three independent variables of interest in this study; victim type, agent type, and injury severity will also be discussed.

Attribution Theories

One of the most amazing features of human beings is that they can explain anything. No matter the cause, people have a strong need to understand and explain what is going on in our world. One such set of events are accidents particularly those resulting in personal injury. Social psychology provides a body of work that attempts to explain how people explain their social world (Kletz, 2001). Attribution theory is a term that has come to denote a body of work on how people perceive the causes of events and the consequences of such perceptions (Weiner, 1985).

In psychological parlance, attribution refers to the general process by which the layperson explains events (Fincham & Jaspars, 1980). The concept was introduced in the work of Fritz Heider (1958) who pioneered the study of "naive psychology." He put forward the view that individuals behave as intuitive scientists by looking for explanations of occurrences and events. Attributions are cognitive in nature, they represent thoughts (McKillop & Posavac, 1976). However, they do not fit neatly into psychological concepts of cognition. Attitudes are positive or negative evaluations associated with objects, usually viewed in terms of affect, behaviour and

cognition. Part of the complexity of attitudes arises from the relationship among affect, behaviour, and cognition (French, 1992). Beliefs are the particular properties people ascribe to objects (Fincham & Jaspars, 1983). Perceptions are the ways in which people interpret stimuli to make sense of their environment (Miller, 1984).

Attributions reflect a process in which each of these cognitive elements, i.e. perceptions, beliefs etc may be important. Some attributions are endowed with valence, reflecting attitudes formed in connection with the explanation of an event (Kletz, 2001). Most attributions involve ascribing properties to objects, making them similar to beliefs. Attributions involve making inferences in an effort to ascribe meaning to events, which is why Heider (1958, p.12) considered attribution "a close relative of perception." Ultimately, what distinguishes attributions from other cognitive elements is their function. They play an important role connecting external stimuli and individual response (Weiner, 1985).

The purpose behind making this connection is to achieve cognitive control over one's environment. By explaining and understanding the causes behind behaviours and events and then in turn being able to make predictions about events, an individual can achieve a level of behavioural control over their environment (Kelley, 1973).

Psychologists have identified several different kinds of attributions. In the following section, three of the most widely used and researched types of attributions provide the theoretical framework for this paper: causal and responsibility attributions. Although this paper deals with responsibility, causality is tied up inextricably with the concept of responsibility that to discuss responsibility with out causality would leave responsibility out of context in the literature review.

Causal Attributions

Causal attributions are most commonly studied and have been the focus of the theoretical research. Causal attributions are explanations regarding the properties of the person or the environment that might have caused the to-be-explained behaviour or event. A cause can be defined in terms of the following properties (a) being an antecedent (i.e., logically prior) to the behaviour or event and (b) sufficient for the occurrence of (i.e., capable of producing) the behaviour (Robbennolt, 2000). In general, a person attempting to make a causal attribution will be looking for stable structural properties of a situation or a person that might have led to the behaviour (Fincham, & Jaspars, 1980). For example, a scientist tries to explain physical phenomena by referring to scientific laws, such as 'gravity causes items to fall to the earth.'

Psychologists often classify causal attributions into two broad categories. Dispositional (or internal) attributions are inferences about a person's characteristics, such as his or her personality, ability, or mood and effort. Situational (or external) attributions are inferences about the properties of the situation in which behaviour occurred. They are inferences about factors external to the person that might have elicited the behaviour, such as luck, fate or circumstances (Jasper, 1983). A person trying to explain human behaviour might settle on either of these types of attributions. For instance, in trying to explain what caused a person named Frank to do harm to another, we might decide that Frank is a hostile person (dispositional attribution) or that Emma said something nasty to Frank (a situational attribution).

Unlike some research topics in social psychology, there is no single, monolithic theory of attribution. Rather, there are several theories, each with some similarities and differences to the others, and each with substantial empirical support for its major propositions (Iyengar, 1991). However, all of these theories attempt to outline, and focus on the conditions that will lead to an

observer to decide that a behaviour or event was produced by a dispositional property of the person involved, rather than by factors in the environment (Weiner, 1986). The three major theories governing causal attributions will be briefly outlined.

Heider's Naïve Psychology

Heider is often described as the founder of attribution theory, and his book, The Psychology of Interpersonal Relations (1958), is seen as the source of many ideas that have become central to attributional research. He believed people act on the basis of their beliefs. Therefore, beliefs must be taken into account if psychologists were to account for human behaviour. This would be true whether the beliefs were valid or not (Heider, 1958).

Heider (1958) also suggested that one could learn a great deal from common-sense psychology. He stressed the importance of taking the ordinary person's explanations and understanding of events and behaviours seriously. He believed that people are motivated to make sense of the world, in part because knowing what causes thing to happen improves their ability to predict and act on the environment. While recognising that his naïve analysis of action also often applies to oneself, Heider's (1958) major focus was on the perceivers' understanding of the actions of others. He argued that this action is a joint function of the two conditions: personal and environmental forces. Personal force is a combination of the actors power or ability ("can" in Heider's terminology) and motivation ("trying"), which was further broken down into both a directional (intention) and a quantitative (effort) component. Personal intention represented the most important factor in causal attributions. Environment force consisted mainly of task difficulty (Kelley & Michela,1980).

In his naïve psychology, Heider (1958) posited that the actor's exertion varies directly with task difficulty and inversely with his or her power or ability. Heider (1958) believed

people's behaviour could be explained in terms of these two forces, and that control and predictability are accomplished by this understanding of interpersonal interactions. Even though Heider (1958) included an external component to his work, his main focus was the personal dispositional factors that shaped his ideas (Jasper, 1983).

In addition Heider (1958) used the terms causes and responsibility, synonymously in his work. He also formulated a levels of responsibility model that will be discussed later. Much of the confusion and inconsistencies relating to the use of the terms cause, responsibility, blame and fault within attribution theory originated from his works and researchers have attempted with varying degrees of success to operationalize the terms and concepts (Harvey & Tucker, 1979).

Jones and Davis's Correspondent Inference Theory

Heider's (1958) naïve psychology presented a system of terms important in the attribution of outcomes to predominately personal forces. Jones and Davis's (1965) correspondent inference theory took the research further and addressed the important question of how social perceivers extract and analyse cues about these personal forces from the complex events they observe (Robbenholt, 2000). More explicitly, the theory focuses on the factors that allow perceivers to attribute some behaviour to the intent and disposition of another individual (Ross & Fletcher, (1985).

Accordingly, people generally do infer that people's intentions and dispositions correspond to their actions, and in general when actions are "uncommon", that is outside a person's social role, and entered into by choice they are more likely to be seen a corresponding to personal dispositions. For example when we see an accident involving a drunk driver we might infer that the person has a lack of self regulation or lack the effort to control his drinking. In this theory, a correspondent inference is an inference about an individual's dispositions that follows

directly from or corresponds to his or her behaviours, and it is often defined as the confidence with which such a inference is held (Taylor & Kleinke, 1992).

Kelley's Model of Attribution Processes

The concern with rational causal inferences divorced from the emotions is to some extent evident in both Heider's and Jones and Davis's theories; but it is even more prominent in Kelley's (1967,1973) covariation model. In addition, while Heider (1958) emphasized and Jones and Davis (1965) considered only processes involved in attributing causality to others, Kelley presented a model that expanded the focus to include attributions for one's own outcomes. He argued that perceivers consider the same factors when trying to link their own or another's outcomes to potential causes (Kelley, 1972).

In his model, Kelly assumed that social perceivers, in trying to understand and control their social environments, often operate in a very inductive fashion, much like scientists (Pearl, 2000). That is, rather than going into situations with strongly held views or theories about the causes of various events, perceivers infer causality through the use of certain kinds of information. More specifically, Kelly proposed that perceivers attribute effects to those potential causal factors with which they covary.

Kelley assumed that individuals make attributions by assessing the relationship among three types of information. Firstly, distinctiveness; how unique is the event? Secondly, consistency; how consistent is the event over time? Thirdly, consensus; does everyone else experience this event? (Pearl, 2000). For example, it could be something to do with ones personality, aggressive nature, or it might have something to do with the type of car we are driving. Kelly accounts for how people make causal inferences to causal schemas, patterns of stored data that allow people to make quick causal inferences (Weiner, 2000).

Limitations

As can be seen from the theories discussed thus far the primary focus of the three attribution theories is on explaining events in terms of interpersonal, particularly dispositional properties. They assess causes in terms such as ability, attention, effort, controllability, stability and mood. Accidents involving personal injury usually are complex events involving not only an interpersonal component but also external factors, such as the weather, legal regulations, and players that are close and distant to the actual event. These factors can play an important role in how people make causal attributions in an accident scenario.

For example, a driver of a car loses control and hits a tree resulting in serious injuries. The police accident investigation team finds that firstly the driver was speeding. However, even at an excessive speed losing control of the vehicle is not a complete explanation. They subsequently find that the road lights were out and visibility was poor. They also discover that the car had a defect in its suspension, which gave way under the stress and contributed to the loss of control. In addition the final report acknowledges the road authorities have not addressed the design defects in the road with even though that stretch of road has a high incidence of accidents. The locals have been campaigning for years to address the problem. One can see from this simple scenario that an accident can have many causes and that simply looking at causal attribution theory for the answers is insufficient to explain or understand an accident such as this in purely personal dispositional terms.

Attribution Biases

Research on attributions suggests that the way in which people actually attribute causes and responsibility for events can be distorted or biased suggested in the attribution theories outlined above (Arkin, Gabrenya, & McGarvey, 1978). People's thinking does not always follow

logical principles or predictable patterns (Brickman, Rabinowitz, Karuza, Coates, Cohn & Kidder, 1982). People seem to have a need to find identifiable causes of events, even where chance factors are mainly responsible resulting in a distorted view of events (Arceneaux, 2003). Such research has found that people can be systematically biased in making attributions. This section will briefly discuss the fundamental attribution bias as it is applicable to the study of accidents and attributions of causality and responsibility. In addition, the defensive attribution hypothesis will be discussed as it also represents a distortion in how people explain events although it is not classified as a bias in the literature.

Fundamental Attribution Error

Both Jones's and Kelley's theories argue that when people do just what the situation ordered, dispositional inferences should be logically discounted (Burger, 1981). However, people often have the tendency to underestimate the influence of situational factors and overestimate the influence of personal dispositional factors, such as traits and attitude, when assessing the behaviour of others. This bias is referred to as "the correspondence bias or "fundamental attribution error" (Burger, 1982).

The consequences of such patterns of thinking are that they provide a useful heuristic, which can save time and energy in making decisions about events (Hamilton, & Sanders, 1992). This bias can engender a sense of control over the social environment and can actually lead to better behavioural predictions in natural settings (Hamilton, 1978). Thus it is an error that does not always lead to mistakes as in accident cases, because usually both personal dispositional and situational factors influence attributions of responsibility and causality and it is the weighting of these factors that is usually in dispute (Burger, 1981).

However, the fundamental attribution bias can also have negative consequences. Believing that the main causes of people's behaviour reside internally with the nature of the person can lead perceivers to be indifferent to the situations faced by for example the homeless, or an individual involved in a drink driving accident. Fortunately, the fundamental attribution bias does not always come into play (Hamilton, 1986). Perceivers are less likely to commit the fundamental attribution error if they are suspicious of an ulterior motive, feeling accountable for their judgements or highly motivated to process information carefully and accurately (Hamilton Hagiwara, 1992).

Defensive Attribution Hypothesis

The fundamental attribution bias examined errors in terms of the personal and situational factors influencing an event. The defensive attribution hypothesis accounts for the influence on causal and responsibility judgements of the severity of the outcome of an action. In accident research the primary outcome examined in the literature is that of injury severity. Shaver & Kelley (1985) explain defensive attribution as follows: as the consequences of an action become more severe, they become more unpleasant, and the notion that they might be they might be accidental becomes less tolerable to the observer. The fear that the same thing might involve the self becomes a realistic possibility. Seeing the actions as avoidable and blaming a person for their occurrence makes the actions more predictable and hence avoidable by the self (Rodriguez & Boggett, 1989)

The defensive attribution hypothesis is a motivational way of explaining causes of events, as the outcome of an event is threatening, the defensive needs of a perceiver will be reflected in his or her attributions of responsibility (Hamilton & Sanders, 1992). Attribution theory suggests that people are motivated to be highly engaged in an attributional search in response to more

threatening or unusual events because there is a greater need to explain such events (Fincham, 1985).

Outcome severity is one of the most researched outcome factors in accident attribution research (Weiner, 1986). The primary outcome of interest in accidents is injury severity sustained by the victim. In a seminal study, Walster (1966) suggested that as the consequences of an action become more severe, observers find it increasingly offensive to recognize that such an outcome might possibly befall them (Weiner, 1985). In order to maintain a belief that they can avoid a similar fate, observers attribute responsibility for occurrences to someone else (Weiner & Kukla, 1972). Walster (1966) presented participants with a scenario that described an accident and asked them to rate the responsibility of an actor who was potentially at fault for the incident. She presented two groups of participants with nearly identical scenarios. In both, a man left his car parked on a hill, and after he left, the car rolled down the hill. One group was told that the car hit a tree stumps; the other was told that the car struck and injured a person. The second group found the car owner more responsible for the accident than did the first group. She found that participants assigned more responsibility to the actor when the outcome was more severe than they did when the outcome was less severe (Weiner, 1972).

Feigenson (2000) proposed that data concerning the severity of the consequences cannot or should not affect the overall judgement of responsibility if the decision-makers observe the demarcation between categories of breach, causation, and injury. He stated the extent of the outcome, such as the injuries sustain, should be irrelevant to the determinations of causation or judgements of responsibility. Yet Walster's (1966) participants "distorted or "bent" their judgements in the direction of a more global conception of responsibility for the accident, a prototype in which responsibility increases as the consequences become more serious. This effect

that severity of outcomes has on peoples motivation to self protect or deny controllability leading to attributional distortions or biases is known as the "severity of outcome effect" or more commonly referred to as the "severity effect" in the accident literature (Robbennolt, 2000).

Shaver (1970b) has suggested that the tendency to attribute more responsibility for severe accidents is not significantly based on a need to defend against the thought of a similar accident occurring to the observer, but rather on Western moral and legal tradition. He noted that when the outcome of an accident involves serious damage, it becomes very important to clarify who was responsible so that restitution can be made and punishment assigned (Green & Bowman 1999). However, while a number of subsequent studies have replicated Walster's (1966) original findings (e.g., DeJoy & Klippel, 1984; Wilson & Jonah, 1988), other studies, including Walster (1967: cited in Robbennolt, 2000) herself have either failed to find a relationship between outcome severity and judgements of responsibility (e.g., Shaver, 1970, Study 1; Shaw & McMartin, 1977; Thomas & Parpal, 1987: cited in Weiner, 1985) or have even found a slight inverse relationship (e.g., Shaver, 1970, Study 3).

Some researchers have suggested that defensive attribution motivations are not triggered unless the situation is highly relevant to the observer (Yates, 1998; Shaver, 1970a). Unless the observer feels some personal or situational similarity with the actors in the scenario, there is no reason to be motivated towards self-protection (Hamilton & Sanders, 1992). For example, it is possible that observers who felt situational or personal similarity to the perpetrator of an accident could foresee the possibility of finding themselves in the same situation and would be motivated to avoid attributing a high level of responsibility to the perpetrator. As the consequences of the accident become more severe, such an observer would be more highly motivated to avoid future

responsibility and would be likely to attribute less responsibility to the perpetrator (Wortman, 1976).

Methodological reasons have also been put forward for the mixed results for the defensive hypothesis. Research using this independent variable off severity of outcome has brought to light a failure within the attribution literature to clearly operationalize the dependent variable of interest (Robbennolt, 2000). Researchers in the area have used a variety of constructs to represent responsibility judgements and are not always deliberate or clear in their choices. Responsibility attributions may differ depending on the definition of responsibility that is elicited from the respondent by the stimulus material and the questions. Fincham and Jasper (1980) have suggested that, in part, there is an inconsistency in the use of the terms *responsibility, fault, blame, cause, negligence and liability* interchangeably in different and even within some studies (Robbennolt, 2000).

A meta-analytic review by Robbennolt (2000) has found overall that the severity effect is supported in the majority of studies to date with the contention that as a general rule laypeople often judge an actor's responsibility in light of the consequences of their action. People assign more responsibility for an accident as the severity of the outcome increases. In the absence of information about an accident (or with conflicting accounts of that event), the severity of the consequences is one possible clue to the degree of responsibility attributed to an offender. The direction of this relationship has also been found to be consistent across methodologies. Because of its importance in accident research this study will also test for the severity effect on responsibility attributions and its interaction with the other two independent variables.

Responsibility Attributions

The second attribution studied in the literature is that of responsibility. The expressions 'responsibility', 'responsible', and 'responsible for' cover a wide range of different, though connected ideas. Theorist Max Weber (1905) was among the first to develop an ethics of responsibility, describing the duties of a politician. He defined acting responsibly as standing up for the consequences of one's action to the extent that these are foreseeable (Weiner, 1985). Another theorist, Bayertz (1995) stated that the notion of responsibility is a specific solution, which has evolved within European society for the problem of attribution or explaining events (Kouabenan, Gilbert, Median, & Bouzon, 2001).

Responsibility attribution is not a natural or self-evident human process, but a result of social "construction" with different conditions necessarily resulting in different constructions (Morris, Nisbett, & Peng, 1995). Bayertz (1995) also proposed that the rise of the concept "responsibility" must be understood as a consequence of the fundamental changes in structure and type of human activity. These changes resulted from the transition from traditional into modern society (industrialisation) (Reason, 1990).

Attributing responsibility for the negative consequences of someone's actions is made more difficult as a result of a number of processes resulting from industrialisation such as technological advance and division of labour. The classical question" who is responsible for a damage or injury to another person?' is now supplemented with questions such as "Who is obligated to fulfil certain roles, tasks or duties? And who is responsible for providing a solution or compensation to he injured parties?" (Iyengar, 1989)

Responsibility comes from the Latin word "respondere", which means, "to answer" (Hart, 1968). The etymology of the word remains true to its current-day use, since holding an individual

responsibility for his or her actions involves a demand that this person answer for his or her actions (Hamilton & Sanders, 1992). Responsibility implies liability, which may carry with it punishment or reward. Early studies of attribution devoted little attention to a common-sense treatment of responsibility (Fincham & Jaspars, 1980). Attribution theory was primarily concerned with the process by which individuals explain the behaviour of others. The research focused on the conditions that affect whether behaviours were explained in terms of internal causes such as personality traits or external causes such as situational factors (e.g., Jones & Davis 1965; Kelley 1967; Weiner 1986). While these studies have relevant things to say about attribution in general, they are less applicable to the study of responsibility attribution, per se (Fincham & Jaspars, 1980).

Social psychological research on accidents represents one of the first major forays into the academic study of responsibility, albeit narrowly construed. These studies tended to cast responsibility attribution as a psychological defence mechanism. The premise of this research is that individuals feel threatened by the notion that things happen by chance. People want to believe that events occur in a predictable and rational fashion, and that they are able to exercise control over their own behaviour (Weiner, 1986).

Accidents raise the possibility that bad or good things can happen to people who do not deserve it, and may simply occur randomly with no reason. In an attempt to avoid psychological discomfort, people are motivated to explain accidents by attributing responsibility for them (Shaver 1995; Walster 1966). Consequently, individuals tend to attribute responsibility for the events that happen to them. Lerner's (1970) "just-world theory" is especially emphatic on this point. People are viewed as deserving what they get. If a bad accident befalls an individual it is

due to something lacking within that person, and if a happy accident visits an individual it is seen as a reward (Kouabenan, 1996).

The treatment of responsibility attribution in accident research is limited. Studies are preoccupied with variables that are important for defensive reactions, such as outcome severity, personality characteristics, locus of control and intentionality. As a result, any theory of responsibility attribution based on accident research is likely to yield a truncated and possibly distorted picture (Fincham & Jaspars, 1980). Much of the work on responsibility builds on Heider's (1958) brief treatment of responsibility attribution, an extension of his causal model, in which he delineated five different levels of responsibility.

First, at the level known as association, responsibility attributions do not require that an individual's actions have in any way caused an event. He or she is merely loosely connected to an event such as atrocities committed by one's country centuries ago (Arceneaux, 2003),

Second, at the level of causality, requires that a person caused an event, even if the event could not have been foreseen. If the event were foreseeable but not intended, then the third level of responsibility applies. If the person's actions were foreseeable and intentional, then the fourth level of responsibility is reached (Arceneaux, 2003),

Finally, if a person intentionally committed an act with foreseeable consequences, but the source of that act is external (e.g., the person was coerced), then responsibility is mitigated somewhat at the final level. The extent to which responsibility is attributed to an actor increases from Level I to Level IV and decreases at Level V. Levels II through V illustrate the variables Heider (1958) believed were important components of responsibility judgements: causality, foreseeability, and intention. Of those, Heider (1958, p.113) argued that "intention is the central factor" for responsibility attribution.

According to Hamilton (1986), Heider (1958) did not even define responsibility but implied responsibility as synonymous with causality. Hamilton (1986) takes issue with Heider's emphasis on intentionality. He put forward, that intentionality is only important for a subset of phenomena. Hamilton's treatment of responsibility attribution is more heavily influenced by the legal scholar H. L. A. Hart.

Harts' (1968) Model

Hart (1968) contends that responsibility is a multidimensional concept, and that entities may be asked to answer for their actions in different kinds of ways and not just in terms of cause. He argues that the simple idea of responsibility and its common usage does not really capture all the senses in which people use the term. Responsibility attribution is better conceptualised as a series of attributions as opposed to a single one (Hamilton & Sanders, 1992). This paper uses three "senses" of Hart's model as most relevant for studying responsibility and accidents; role, causal responsibility and solution responsibility.

Role Responsibility

Individuals can be endowed with particular social, moral, legal or ethical roles. These roles define expectations regarding appropriate behaviour. They imply a set of obligations or "oughts," which underlie notions of responsibility (Hamilton, 1978). For example, a navy captain is responsible for the safety of his crew and ship, parents for the upbringing of their children, an accountant for the financial accounts of a company. Hart (1968) suggested that, whenever a person occupies a distinctive place or office in a social organisation, to which specific duties are attached to provide for the welfare of others or to advance in some specific way the aims or purposes of the organisation, he is properly said to be responsible for the performance of these duties, or for doing what is necessary to fulfil them.

Such duties are a person's "role" responsibilities. In today's society some of these roles are assumed and part of normal social conduct, such as being a parent, and others are enshrined in laws, such as the obligations of politicians and police personnel. Others are regulated by organisational guidelines such as employee's duties and corporate responsibilities.
Such role responsibility can be permanent or temporary depending on the nature of the role involved, and among the latter could include such transient and informal roles as the role of 'party host' who could be viewed morally responsible not to allow his guests to drive home intoxicated, and in some societies this is regulated by case law and statue law.

In hierarchies, such as business entities and government bodies, members can be held responsible by virtue of their role or position in the group without actually being the causal agent or intending for a harmful action to occur (Hamilton & Hagiwara 1992). For example in the recent HIH insurance collapse the chairman was found to be responsible for the financial losses of the company even though he had no day to day involvement in the company and was not directly involved in the decision making and had limited knowledge of the company executives loss-making decisions. His role responsibilities were determined by the courts system in accordance with company law and his statutory role as a company chairman.

Hamilton (1978), argued that a functional role, and not intention as Heider (1958) proposed, is a more critical factor in assigning responsibility. Even in non-hierarchical relationships, individuals can be held accountable when they fail to do things expected of them. For instance, a co-worker who fails to complete a crucial report on time may be held accountable by others regardless of whether he or she intentionally did not complete the report. Finishing that report was part of this person's job and it was expected. This study will focus on a formal role as

prescribed by law, an incorporated entity, and informal role, as prescribed by social conventions, such as parental responsibilities.

Causal Responsibility

The second of Hart's sense, causal responsibility, people are often held responsible for events that are caused by their actions (or inactions). Social psychologists have developed a number of models to describe how individuals perceive causality (e.g., Hewstone 1999; Jaspars 1983; Jones & Davis 1965; Kelley 1967; Weiner, 1986). However there is some disagreement regarding how to conceptually define "cause" (Hewstone 1999). Many of these studies may be guilty of making the process by which ordinary individuals assess causation overly intellectual. Attributions of causal responsibility need not be based on an exhaustive cognitive search for alternative explanations (Weiner, 1985).

Individuals are less "intuitive scientists" than they are "intuitive lawyers" (Fincham & Jaspars, 1980), so causation can be treated in common-sense terms. An individuals' actions need not be the proximate cause of an event or even intentional to make an attribution of causal responsibility. For instance, a driver who accidentally runs a red light and prompts another vehicle to swerve and crash into a third vehicle "caused" an accident. The driver's actions were neither intentional (it was an accident) nor were they the proximate cause of the crash (the second driver was the one that actually hit the third car). Some researchers, such as Shaver (1985) argue that thorough definitions of causality exist however the attribution studies to date rarely provide clear unambiguous definitions relying on commonsense definitions and meanings. (e.g., Wilson & Jonah, 1988; Feigenson, 2000; Robbennolt, 2000; Brewer, 1977). In addition, as Hart (1968) contends that people in everyday experiences refer to someone being 'responsible for causing' an

event so the theoretical distinction between cause and responsibility may be more important to the theorist than the layperson.

Solution Responsibility

Causal attributions are essentially retrospective judgements about who or what is culpable for a past event. However solution responsibility attributions, in contrast, are prospective judgements about who or what should 'control future events' (Hart, 1968; Iyengar 1989, 1991). Causal responsibility is typically directed at finding the origins of a problem, while solution responsibility is the search, as the name implies, for a solution. Prior to Brickman, et al.'s (1982) seminal research on responsibility attribution, social psychologists implicitly treated the cause and solution aspects of responsibility as collinear concepts.

The conventional wisdom in the literature up to that time was that those who caused something to occur, were also expected to fix it, while those who were not casually responsible for some event would not be expected to solve it (Hewston, 1999). Iyengar (1989) contends that failure to distinguish between these two concepts ignored instances in which solutions for problems are not necessarily found on "the same level as the origin" for those problems. As it turns out, this observation is important for the study of accidents. It is not always the person causing the injury that ends up having to pay for it.

Non Dispositional Characteristics Affecting Attribution of Responsibility

Attribution theorists have seldom concerned themselves with the non dispositional characteristics of the person making the attribution or the target of the attribution. For example, attribution theory does not consider whether the target of an attribution is male or female or a member of a minority group, even thought evidence suggests that minority status of an

attributional target tends to influence the attributions made (Moghaddam, 1989). For example, several studies have shown that performances by members of majority groups (e.g., males and white) are attributed more to skill, whereas equivalent performances by members of minority groups (e.g., females and coloured) are attributed more to luck (Bigoness, 1976).

Two non-dispositional characteristics that have received little or no attention are the type of victim involved in an accident and the characteristics of the offending agent.

The present study specifically examines the effect of two types of victims; secondary and primary victims, and two types of agent; individual and corporation on people's attributions of responsibility. Using the attribution literature as a frame work, we focus on three sets of factors that are likely to be particularly salient to explaining accidents in terms of responsibility attributions in accident decisions: Victim type, offender type and injury severity.

Victim Type: Primary versus Secondary Victim

Research has focused almost exclusively on explaining the accident in terms of the individual primary victim. The primary victim defined as the person who receives physical injuries and on whom the actions of the agent are imparted. However accidents are usually complex events with many victims, not just the primary injured party but also a variety of so called "secondary victims" such as relatives and close family members. A number of recent court decisions have brought into the public arena decisions resulting in compensation for psychological shock by the secondary victims of an accident.

Recently the High Court of Australia handed down its much awaited decision in two separate cases, Annetts v Australian Stations Pty Limited (2002); and Gifford v Strang Patrick Stevedoring Pty Ltd (2003). Both cases concerned liability for psychiatric injuries suffered by plaintiffs as a result of allegedly negligent conduct, which was not associated with any form of

physical injury to the person. The High Court of Australia has used this opportunity to examine the development of the common law relating to the recovery of damages for purely psychiatric injuries caused by negligent conduct to secondary victims.

In August 1986, in the remote outback of Western Australia two young boys died mysteriously, stranded in the desert, James Annett, 16 year old, was employed as a jackaroo on a large cattle station in the Kimberley region. Four months after he arrived on the station he and a friend, Simon Amos, disappeared. About four months later their remains were found 18 kilometres from their bogged vehicle in the Gibson Desert. But while it was clear what killed the two boys, what was never fully explained was why they were in the remote stretch of desert in the first place.

The coronial inquest found the teenagers had died from dehydration, exhaustion, and hypothermia. James Annett's' parents had been fighting for eight years, for compensation from Australian Stations on the grounds the company owed them a duty of care (legally responsible) and claimed to have suffered psychological trauma as a result of the ordeal. However, their claim had initial been rejected by the Full Court of Western Australia. The decision was based on the grounds that the parents, living thousands of kilometres away, were too far removed from the events to qualify for compensation because the defendants were not legally responsible to exercise reasonable care and skill to avoid causing his parents psychological injury (Annetts v Australian Stations Pty Limited, 2002).

In 2002, however the High Court of Australia overturned the decision and held that in accordance with ordinary principles of negligence Australian Stations Pty Limited did owe the parents a duty of care. The Court found that the parents had entrusted their son to the defendant's care and that they had specifically enquired as to the arrangements that would be made for his

safety. Furthermore, the defendant had undertaken to specifically act to minimise the risk of harm to their son and, by inference, to minimise the risk of psychiatric injury to the parents. In those circumstances, the Court considered there was a relationship between the Annetts and Australian Stations Pty Limited (2002)was of such a nature that it was reasonable to require the defendant to have in contemplation the kind of injury to the applicants that they had suffered. The Court further held that the common law of Australia does not and should not limit liability for damages for psychological injury to cases where the injury is caused by a 'sudden shock' or to cases where a plaintiff has directly perceived a distressing phenomenon or its immediate aftermath (Annetts v Australian Stations Pty Limited, 2002).

The further, and more recent, decision of Gifford v Strang Patrick Stevedoring Pty Ltd (2003) confirmed this legal decision except that in this case the secondary victims were the children of the primary victim. In this case, Strang Patrick Stevedoring Pty Limited employed Mr Barry Gifford as a wharf labourer and wharf clerk. On 14 June 1990, in the course of his employment, Mr Gifford was killed when a forklift reversed over him, crushing him to death immediately. Mr Gifford's estranged wife and his children, then aged 14, 17 and 19, were informed of the accident later the same day. They did not see the deceased's body. The Gifford children did not live with the deceased but maintained a close and loving relationship with him, with Mr Gifford visiting them almost daily.

The High Court of Australia again found, after the state court reject the initial claim and allowed the appeal, that an employer owes a duty of care to take reasonable steps to avoid psychiatric injury to the children of their employees. In finding that Strang Pty Ltd owed the Gifford children a duty of care, the High Court judges confirmed that the revised test for 'nervous shock' cases requires a consideration of reasonable foreseeability. Justice McHugh stated a legal

principle in the context of the nervous shock case; that would a reasonable person in the defendant's position, who knew or ought to know of that particular relationship, consider that the third party was so closely and directly affected by the conduct that it was reasonable to have that person in contemplation as being affected by that conduct and 'sudden shock'?

In the attribution literature, no studies to date have examined the role of secondary victims in attributions of responsibility. The aim of this study is to examine the effects of victim type; primary versus secondary victims, have on the attribution of responsibility for accidents involving personal injury.

Offender Type: Individual versus Corporation

Responsibility attribution research has focused primarily on individual players on an interpersonal level of interaction, thus largely overlooking explanations of behaviours performed by groups or collectives, such as a business corporations, ethnic groups or socio-economic classes (Hans & Ermann, 1989). As an object of social perception, groups are treated differently from individuals (DeJoy, 1985). It stands to reason then, that explanations of group behaviour will also be distinct from explanations of individuals' behaviour. Inter-group attribution work has focused on explanations for behaviours performed by individual group members rather than by the whole group (Hewstone, 1999). Few researchers have explored in the field of responsibility attribution whether perceivers attribute responsibility differently when accidents are attributed to a group differ from those performed by an individual.

Some researchers have found that community sentiments towards business, are so favourable that even when a corporation deserves punishment the public does not support it (Feigenson, 2000). Others have taken the opposite point of view, asserting that strong anti-

business sentiment leads to public condemnation of corporate misdeeds (DeJoy, 1985) with public opinion surveys provide support for both beliefs.

Knowledge of public attitudes towards instances of corporate versus individual wrongdoing is critically important on both theoretical and practical grounds. On a theoretical level, analysis of judgements of corporate versus individual wrongdoing helps to illuminate how people consider the identity of the actor in making attributions of responsibility (Shaver, 1985). For example, does the fact that a corporation rather than an individual engages in a particular behaviour fundamentally transform the responsibility attributed for that behaviour, even if the action itself is identical? This work shows that after categorizing people into groups, observers tend to assume intra-group similarity and to accentuate differences between groups (Werhane,1985). However, judgements of responsibility of individuals compared to groups have not been investigated systematically.

Both the theoretical and empirical literature in the area of corporate crime does suggest that people may view corporate wrongdoing distinctively for a variety of reasons. The most obvious is that individuals and corporations frequently engage in different behaviours. Schrager and Short (1978) observed that diffuse economic harm caused by corporate entities is likely to elicit milder punitive reactions than the focused bodily harm associated with individuals involved in street crime.

Another prominent explanation for differential reactions involves the typically greater financial resources of the corporation, which may lead to a so-called "deep pockets" effect. It is commonly claimed that juries award plaintiffs who sue corporations larger sums of money because the jurors believe that the corporations, with their greater financial resources can afford

more in the way of compensation. A number of studies have reinforced this view (Chin & Peterson, 1985).

A third set of explanations for differential treatment focuses on the non-financial resource superiority of organisations over individuals. Because corporations typically consist of a number of individuals with specialised skills and are viewed as a rational structure using systems in decision making, they could be presumed to possess greater rationality, greater foresight, and better ability to anticipate the consequences of their endeavours than individuals. All these features, according to attribution theory, should enhance judgements of responsibility. Some of the research findings on organisational behaviour challenge the presumption of greater corporate rationality (e.g.,Ermann & Lundman, 1989). Nonetheless what might seem to be an accidental act if committed by an individual may seem purposeful when a group of people engage in the same act.

In one study, Hans & Ermann (1989) examined whether respondents applied a higher standard of responsibility to a corporate actor compared to an individual in a scenario involving harm to workers. Respondents found that the corporation was more reckless and should have shown a higher degree of foresight than the individual. The results reinforced the notion that the corporation was attributed more responsibility and punished more severely compared to the individual entity. Other considerations such as financial resources and deterrence appeared to play a less significant role. This is the only study specifically dealing with responsibility attributions in a personal injury scenario.

The discussion so far suggests that if corporations and individual commit the same action, the corporations might be viewed more negatively that the individuals. The present study will

explore whether people responded differently to corporate versus individual wrongdoing when attributing responsibility in accidents involving personal injury.

The Present Study

Three variables that are common characteristics in many accident scenarios will provide the basis for this study. The aim of the present study was to; Firstly, to explore the effects of victim type; primary versus secondary victims, on peoples attributions of responsibility. Secondly, to explore the effects of agent type; corporate versus individual, on attributions of responsibility. Finally, to explore the effects of outcome severity; severity of injuries sustained on attributions of responsibility. The study will use Hart's (1968) model to measure responsibility attribution responses. Hart (1968) did not operationalize his model, however a few researchers have adapted principles from his thesis such as the dimension of role responsibility (e.g., Arceneaux, 2003). The model used in this study is a composite drawing in large part on the three senses of role causal and solution responsibility and adapting ideas form subsequent research that clarifies aspects of Hart's (1968) original thesis.

Studying attributions of responsibility in accident situations can provide an important insight in dealing and coping with their ramifications. It enables us to understand what we can control and what factors influence errors in judgments. It is important because it investigates where people focus their blame, anger, and actions when faced with an accident involving personal injury. It also has implications for compensating victims in both moral and legal settings and preventing future occurrences.

METHOD

Research Design

An experimental between-groups design was employed in this study, and the participants were compared across conditions. The study examined the effects of manipulating the three independent variables: agent type, injury severity and victim type on attributions of responsibility as measured in terms of the three dimensions of role, cause, and solution responsibility. A 2 Agent Type (corporation, individual) x 2 Victim Type (primary, secondary) x 2 Severity of Outcome (mild, severe) between subjects factorial design was used. The eight conditions were achieved by experimentally manipulating one vignette (see Appendix D).

Independent Variables

The three independent variables in this study where severity of injury sustained by the victims, type of victim involved in the accident and the type of agent that can be held responsible for the event.

Outcome Severity

Injury severity was manipulated by the results of the accident being described as mild or severe. The severe scenario involved a young child injured at a recreational facility or at a private home party. The severe level of injuries sustained were described as a fractured skull and internal injuries which required extensive time in hospital and subsequent recovery time with some permanent scaring and permanent mental and physical injuries. The mild condition involved the young child sustaining some minor bruising and concussion with a visit to the doctor for treatment.

Victim Type

Victim type was manipulated by the young child being the primary victim to whom the actual accident occurred and the secondary victims being the child's parents who did not view the accident but experienced and cared for the child after the accident occurred.

Agent Type

The offending party or agent type held responsible for the accident was manipulated by having a person hosting a pool party for children at their residence representing an individual and a privately run leisure centre representing a corporation.

Variables Controlled

It was anticipated that the influence of insurance might be a confounding variable in this study. It was thought that respondents would be influenced by the reality that insurance cover compensates those injured due to accidental injury with issues of responsibility viewed predominately within a legal context, particularly in the type of scenario presented in this study. To minimize the effects of insurance bias at the beginning of the scenario a statement was read to the participants prior to commencing reading the scenario, stating that the agents in the scenario are to viewed as being liable for all damages, and no insurance coverage was available to cover any of the damages. This statement was also repeated after the participants had read the scenario and prior to the questionnaire being presented.

Participants

The study sample comprised of 160 participants, (80) females and (80) males. They were recruited from the general public from five different recreational locations around Perth, such as Kings Park, Bibra Lake, Fremantle's fisherman's harbour. Locations were chosen from a selection that represented wide range of socio-geographic areas. Demographic data

collected indicated all participants were over 18 years of age. The average age of the participants was 42 years, with a range of 18 to 68 years. The majority of the sample were parents (n = 128, 80%). The education level achieved by the participants represented (n = 21%) secondary level education, (n = 47%) tertiary level and (n = 15%) technical level with (n = 5 %) below secondary level. Participants were not compensated for their participation although coffee was purchased for 8 at one location. Participants were randomly assigned using a visual numbering technique where every third person that passed a particular point at the location was approached and allocated to the 8 conditions with 20 participants allocated to each condition.

Instrument

The instrument contained a scenario based on a swimming pool accident involving a young child. The scenario was manipulated to produce eight versions in line with the eight experimental conditions. The accident scenario was based on actual events as stimuli for attributions of responsibility increasing the external and face validity of the instrument (see Appendix D). The scenario was a composite based on legal cases, news stories and the researcher's experience. The independent variables (outcome severity, victim type and agent type) were manipulated by varying key sentences in the scenario. The outcomes were mild versus severe injuries sustained. The victims were primary (child) versus secondary (parents). The agents were an individual versus a corporation. All other details were kept consistent across conditions.

The instrument contained nine questions divided into three sections; role, causal and solution attributions of responsibility. Hart's (1968) original text described the dimensions and their contents. Key words and ideas were taken from these sources and adapted to create a set of questions that reflected the core ideas of Hart's Model.

The role responsibility questions used the words 'role' and 'duty' underlie the notions of 'role' as one of the three senses of responsibility. (Hamilton & Hagiwara, 1992) applied the same words in sentence construction. Questions 1-3 refer to role responsibility.

The causal responsibility uses 'cause' and 'actions caused' as the operative word in line with every day usage and all previous studies have used it in instrument construction. Questions 4-6 refer to causal responsibility. The solution responsibility questions referred to liability or compensation. Hart (1968) uses terms such as 'pay' and 'compensate' when discussing this sense or responsibility. Questions 7-8 refer to solution responsibility.

The questions were based on a 7-point Likert scale ranging from *none at all* (1), to *the maximum possible* (7), with appropriate bipolar labels provided for each item (Appendix C). Sample items included: Rate to what degree it was the role of the council to foresee the potential for such an accident occurring to a child? To what degree was it the role of the council to foresee the potential for psychological trauma to the parents of the child.

The questionnaire was tested for construct and face validity by a group of volunteers and feedback was incorporated to improve clarity. The internal consistency of the instrument was established by calculation of a Cronbach's alpha coefficient based on the responses from participants of the main study. The role responsibility dimension recorded a Cronbach value of .84. The cause responsibility dimension recorded a Cronbach value of .74. The solution responsibility dimension recorded a Cronbach value of .86. The final section requested demographic data (age, gender) in order to ensure that the eight conditions did not differ significantly from each other. An information letter (Appendix A), a consent letter (Appendix B), the questionnaire (Appendix C), and the scenario (Appendix D) are attached to this report.

Procedure

Participants were approached in public places such as parks and outdoor recreational venues, and invited to take part in the study. Participants were supplied with an information sheet that explained the aim of the study and the tasks involved. An accident scenario and a questionnaire were supplied. They were informed that the scenario was compiled from an actual case and involved a swimming pool accident with a young child. They were informed of the ethical requirements and cautioned as to the potentially distressing nature of the scenarios and asked not to participate if it had the potential to distress them and they were informed they could withdraw at any time. Each was then asked to sign a consent form.

The participants were also provided with a brief demographics questionnaire. The participants were presented the experimental scenario and asked to read it carefully. They were then asked if they had any questions about the accident scenario, and these were noted. They were then presented with the questionnaire and asked to carefully consider each question. All participants were presented with a card containing the names and phone numbers of three counselling services and thanked for their participation. All participants recruited satisfactorily completed the study and none reported being upset by the experiment.

RESULTS

Data Screening

The data was screened to evaluate assumptions for conducting three separate three-way ANOVA's. A series of Mann-Whitney tests were conducted as part of the ANOVA post hoc comparisons. Independent sample t-tests were not used for post hoc comparisons. A series of Mann-Whiney U test were conducted as there was a demonstrated deviation from normality according to the Shapiro-Wilks statistic. In order to conduct a Mann-Whitney U test, two assumptions must be satisfied (Tabachnick & Fiddell, 1989).

Firstly, that the samples are independent and secondly the scores are continuous. These assumptions were satisfied. Homogeneity of variance was not violated hence the analysis proceeded as ANOVA is robust to violation of normality. Seven outliers were detected but it was decided to avoid reducing the spread of scores and thereby compromise intercorrelations between the variables. A correlation analysis between the three dependent variables (see table 1) shows that the three dimensions differ sufficiently to view role, cause and solution responsibility as distinct constructs.

An ANOVA was performed on the data instead of a MANOVA because the constructs had sufficiently different correlation values to be viewed as conceptual different. The correlation show that role and solution responsibility were more related $r = .624$ with each other than with causal responsibility.

Table 1

Combined Between-Cell Corrrelations for Role, Causal Responsibility and Solution Responsibility Dependent Variables.

	Role	Causal	Solution
Role	1	.352	.624
Causal	.352	1	.328
Solution	.624	.328	1

Correlation significant at the 0.01 level (2 tailed).

Analysis of Variance

Three separate A 2 (severity: mild vs severe) x 2 (victim type: primary vs secondary) x 2 (agent type: individual vs corporation) between subjects analyses of variance were performed on the attributional ratings scores of the three dimensions of responsibility as three dependent variable. SPSS for Windows version 11 was used for the data analysis.

Main Effects

Effect of Severity on Attributions of Responsibility

Analysis of the results shows a main severity effect on all three dimensions of responsibility: role $F(1,152) = 78.22$, $p < .001$, causal $F(1,152) = 13.99$, $p < .001$, and solution $F(1,152) = 52.03$, $p < .001$. As the level of injury severity increased the offending party was held more responsible. A strong effect was recorded for the solution dimension ($\eta^2 = .500$), a moderate effect for role responsibility ($\eta^2 = .341$) and a weak effect for causal responsibility ($\eta^2 = .080$).

Effect of Victim Type on Attributions of Responsibility

Analysis of the results also shows a main effect for victim type on all three dimensions of responsibility: role $F(1,152) = 42.47$, $p < .001$, causal $F(1,152) = 17.09$, $p < .001$, and solution $F(1,152) = 39.28$, $p < .001$. Table 2 shows that more responsibility is attributed for injuring a

primary victim as compared to the secondary victim. The strongest effect was recorded in terms of role responsibility ($\eta^2 = .403$), a moderate effect for the solution dimension ($\eta^2 = .205$) and a weak effect for causal responsibility ($\eta^2 = .101$).

Effect of Agency Type on Attributions of Responsibility

Analysis of the results also show a agency effect on two of the dimensions: causal $F(1,152) = 5.89$, $p < .05$, and solution $F(1,152) = 9.23$, $p < .001$. Both effects although significant were weak as shown by the partial eta values of ($\eta^2 = .057$) for the solution dimension and ($\eta^2 = .037$) for the causal responsibility. Table 2 shows that the individual was found to be more responsible for causing the accident than the corporation however the corporation was found more responsible for providing a solution by way of compensation than the individual. Both the individual and the corporation are held equally responsible there was no difference $F(1,152) = .630$, $p > .05$, *ns.*

Interactions

The main effects where qualified by six significant higher order interactions. Table 2 shows the significant two-way interactions and figures 1, 2 and 3 illustrate the interactive effects. No significant three-way interactions were recorded. All mean differences were calculated using Mann-Whitney U test (see Appendix F).

Within Role Responsibility Dimension

There were two significant interactions within the role responsibility dimension. Firstly between victim type and severity of injury a moderately strong interaction was recorded $F(1,152) = 71.97$, $p < .001$, ($\eta^2 = .321$). Figure 1 shows that as the severity level of the injuries increased the respondents viewed the victims of the accident differently. At the mild level of injury the respondents viewed the agent as having significantly more role responsibility for the primary

victim as compared to the secondary victim as reported by the significant difference in the means measured by the Mann-Whitney U test, $p < .001$. However at the severe level, the agents role responsibility for the secondary victim compared to the primary victim, although still significantly different, $p = .007$, had reduced. At the severe level the respondents rated the agent as having responsibility for the secondary victim's injuries approaching that of their responsibility for the primary victim.

Secondly, a weak interaction occurred between agent type and severity $F(1,152) = 5.52, p = <. 02, (\eta^2 = .025)$. Figure 2 shows that at the mild level of injury the individual is judged more responsible in terms of their role towards the victims however at the severe level of injury the corporation was judged as being more responsible in terms of their role towards the victims. When the difference between the agent type means was compared at each injury level the differences were found not to be significant. The differences between the group means, individual compared to the corporation at the mild level, $p = .087$, and at the severe level, $p = .580$, were found to be not significant. This deeper analysis of the weak interaction shows that the respondents did not view the individual significantly differently from the corporation in terms of their role responsibility at either of the injury levels.

Within Causal Responsibility Dimension

There were two significant interactions in terms of causal responsibility dimension. A weak interaction was recorded $F(1,152) = 5.89, p = .016, (\eta^2 = .037)$. At the mild level of injury there was a significant difference between the primary victim compared to the secondary victim, $p < .001$, however, at the severe level the difference between the primary and secondary victim was not seen significantly differently by the respondents, $p = .218$ (See figure 3).

Secondly, there was a significant although weak interaction between severity and agency type $F(1,152) = 4.69, p = .032, (\eta^2 = .030)$. Figure 4, shows at the severe level the respondents view the agents of the accident differently than at the mild level of injury. At the mild level there is no significant difference, $p = .972$, between the individual and the corporation in terms of allocating causal responsibility for the injuries however at the severe level there is a significant difference $p = .002$, with the individual being viewed as more responsible for the injuries than the corporation.

Within Solution Responsibility Dimension

There are two significant interactions. Firstly, between victim type and injury severity, a moderately strong interaction was recorded $F(1,152) = 74.74, p < .001, (\eta^2 = .33)$. Figure 5 shows that at the severe level respondents viewed the victims more alike than at the mild level. At the mild level both victims were viewed significantly differently, p = <.001 in terms of allocating solution responsibility, however at the severe level there is no significant difference between how the victims are viewed in terms of the agent being responsible for compensating the victims, $p = .338$.

Secondly, a significant but weak interaction occurred between agency type and victim type $F(1,152) = 7.11, p < .001, (\eta^2 = .045)$. Figure 6 shows that both the individual and the corporation are almost equally responsible for providing compensation for the primary victim Mann-Whitney value is not significant, $p = .173$. However when it comes to the secondary victim the corporation is viewed as being significantly more responsible than the individual for compensating the secondary victim, $p = .021$.

Table 2

Means, Standard Deviations, and Group Comparisons for Dependent Variables Yielding Main Effects and Significant Interactions

	Dimensions of Responsibility								
	Role			Causal			Solution		
	M	SD	F value	M	SD	F value	M	SD	F value
Main Effects									
Severity			78.22 ***			13.99**			52.03***
Mild	3.89	2.59		2.11	1.29		3.91	1.57	
Severe	6.03	1.78		2.81	1.33		6.15	0.78	
Victim Type			42.47***			17.09***			39.28***
Primary	6.19	1.12		2.85	1.29		5.61	0.84	
Secondary	3.73	2.81		2.06	1.30		4.45	2.07	
Agent Type			0.63+			5.89*			9.23***
Individual	5.06	2.12		2.68	1.41		4.69	1.81	
Corporation	4.87	2.78		2.22	1.27		5.35	1.46	
2-Way Interaction									
Severity x Victim Type			71.97***			5.89*			46.15***
Severity x Agency Type			5.52*			4.69*			0.16+
Victim Type x Agency Type			0.08+			1.24+			2.23**

Significant	*	$p < .05$
at	**	$p < .01$
	***	$p < .001$
	+	not significant

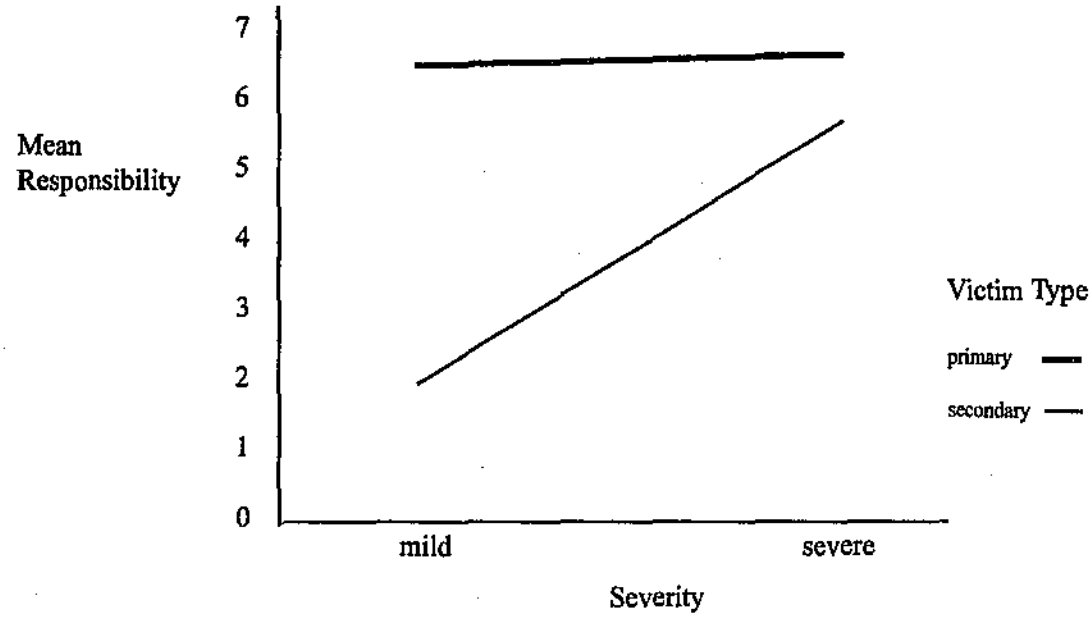

Figure 1. Mean role responsibility ratings for severity by victim type interaction.

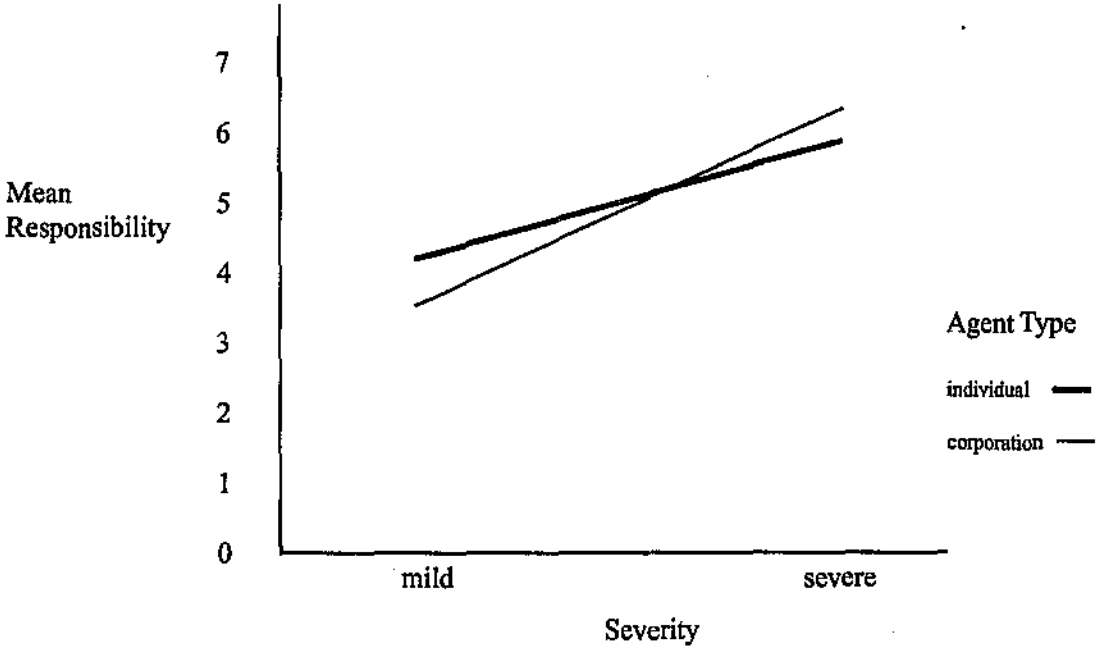

Figure 2. Mean role responsibility ratings for severity by agent type interaction.

Figure 3. Mean causal responsibility rating for severity by victim type interaction.

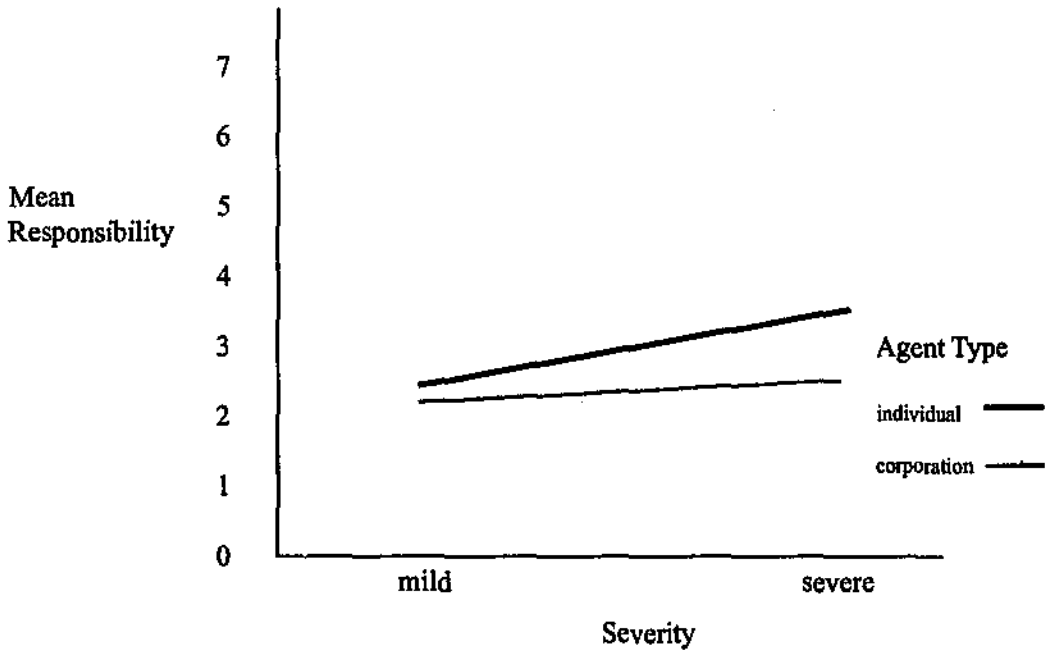

Figure 4. Mean causal responsibility rating for severity by agent type interaction.

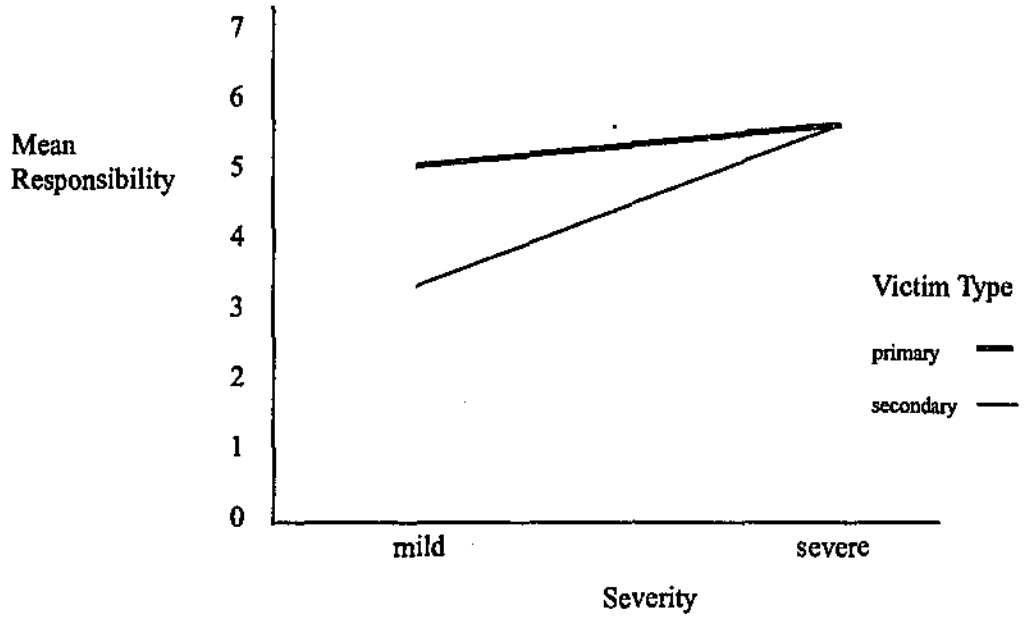

Figure 5. Mean solution responsibility rating for severity by victim type interaction.

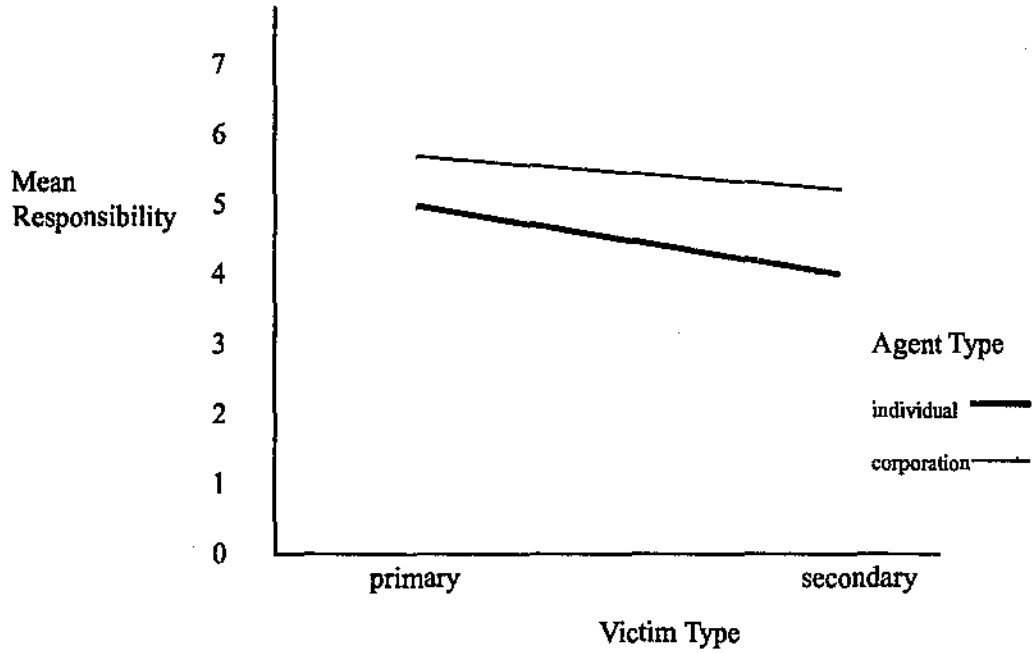

Figure 6. Mean solution responsibility ratings for victim type by agent type interaction.

DISCUSSION

The research questions possessed by this study were; Firstly, do the severity of the injuries sustained by the victim in an accidents influence the level of people's attributions of responsibility? Secondly, is a secondary victim viewed differently from a primary victim and hence influences peoples attributions of responsibility? Finally, are people's responsibility judgement influenced when the agent is an individual compared to a corporation? The measures of responsibility were rated in terms of Hart's (1968) senses of role, causal responsibility and solution responsibility.

Firstly, severity of outcome strongly influenced respondent's attributions of responsibility on two measures; role, and solution responsibility. Respondents attributed a higher level of responsibility when the victim sustained severe injuries in comparison to a mild level of severity. Severity of outcomes had the strongest effect in the solution dimension which suggests people rate highly the responsibility of the agent for compensating the victim and the responsibility increases as the severity level of injuries was increased. Respondents also attributed a moderate level of responsibility in terms of the agent's role. They held the agent more responsibility in terms their obligation and duties for the safety of the victims when the victims were severely injured as compared to a mild level of injury. The results support the findings of Walster (1966) and Wilson & Jonah (1988). This also reflects the effect outcome severity has in the legal context, with victims sustaining higher injuries generally being compensated to a greater degree and the offending party punished or penalised more severely.

Secondly, the nature of the victim also had a strong effect on respondent's attributions of responsibility. The primary victim was given higher status than the secondary victim overall. This reflects the dominant role of the primary victim in an accident scenario as is seen in the legal and

social systems and as expected from an intuitive stand point. However the interaction discussed latter qualify the main effect results.

Finally, the effect of agent type, corporation versus individual, had a weak influence on respondent's attributions of responsibility in the causal and solution dimensions and no significant effect in the role dimension. The results suggest that the respondents did not perceive the individual agent differently from the corporation in terms of their liability to compensate the victims or attributing causal responsibility to there actions or inactions in terms of the accident scenario presented. Also the respondents found that both the individual and corporation were equally responsible in terms of their duties and obligation to the victim. This result was unexpected as in studies outlined in the literature review (e.g., Hans & Ermann, 1989; Chin & Peterson, 1985) found people generally perceive corporations less favourably in accident situations than the individual agent. In this study the result could be explained in terms of the nature of the scenario presented.

A child injured in a swimming pool accident may elicit a rational response with respondents perceiving that both parties are equally responsible in such a scenario. The emotional content of the story did not elicit a defensive attribution response from the predominately parent sample making up this study. A defensive response may have resulted in respondents attributing more responsibility on the corporation and less on the party host as a party host would be seen as having a situational similarity with many parents in the study. They could easily find themselves in a similar situation. One could also present the reverse case, that the respondents held both parties equally responsible for the child's injuries, expecting a high level of care, regardless of whether it was a parent looking after a group of children or a corporation running a recreational

activities business. In society people have expectations about the safety and conduct towards children and this applies regardless of the nature of the entity involved with their care.

A second factor may have been the influence of insurance. In this society insurance covers so many aspects of our social life in terms of compensating victims for accidents that the respondents may have perceived the parties as equals because insurance would cover the damages and compensate the victims. In reality the corporation would be covered by public liability insurance and the home owner is also likely to have public liability insurance and the respondents were influenced by this fact and thereby negating the difference in the agent types presented in this case.

The higher order interactions are of most interest. The strongest interactions, and worthy of discussion, were between severity of outcomes and victim type in the role and solutions dimensions. Firstly, in the role dimension, the agent concerned had perceived obligations and duties in terms of their role as either a parent supervising a party, or a corporation operating a recreation facility. The respondents rated the agent almost equally responsible for the child's injuries whether they were mild or severe. However the respondents took a different view in relation to the child's parents. When the child was mildly injured the agent was attributed a low level of responsibility for the resulting trauma suffered by the child's parents. However when the child was severely injured the status of the child's parent increased substantially. The agent was held almost equally responsibility, for the psychological trauma sustained by the parents as for the injuries sustained by the child. This supports legal trends in cases involving secondary victims as was illustrated by Annetts v Australian Stations Pty Ltd and Gilfford v Strang Patrick Stevedoring Pty Ltd, when the consequences of not fulfilling deemed legal roles results in severe outcomes.

The victim type and severity interaction also had a similar pattern in the solution dimension. At the high level of injury the status of the secondary victim was the same as the primary. Respondents viewed the agent was equally responsible for compensating both the child and parents for the injuries they sustained. This interaction further supports Walster's (1966) of the influence of outcome severity on attributions of responsibility. What was most interesting was that the severity effect was largely due to the influence of secondary victim. The respondents attributions of responsibility were consistent for the primary victim at the two levels of injury but is was when the parents suffered severely, when their child was seriously injured, that produced the strongest result. This suggests that when the situation is severe enough and arousal high, particularly as the sample was predominantly made up of parents, the influence of the severity of outcomes is not limited to the primary victim and people are willing to extend their judgements of responsibility beyond the obvious primary victim.

In the causal responsibility dimension the agent is seen in terms of being a causal antecedent, and can be perceived as either proximal or distal to the accidental event. The same pattern of results is seen as in the role and solution dimension. Even though the scenario gave few details about causal antecedents, and the agent in the scenario was not placed as a proximal causal factor in the scenario, respondents still attributed responsibility in this dimension. The agent was held equally responsible in this dimension for the parent's psychological trauma as for the child's injuries at the severe level. However the responsibility values recorded in this dimension were very low, indicating the scenario did not present sufficient causal antecedent information to make stronger attributions of responsibility. Even with minimal information people still made causal attributions of responsibility. Thinking in terms of causes is the dominant way of explaining events (Wenier, 1985).

Overall, the interactions suggest that the severity of outcome influences people's attributions of responsibility and is related to the type of victim. At the severe level the agent is attributed almost equal responsibility for the secondary victim as for the primary victim when they are severely injured as compared to a mild level of injury. The influence of this interaction is also evident to varying degrees across all three measures of responsibility.

Using Hart's (1968) revealed that people do discriminate between the three dimensions of role, causal and solution responsibility. People do not just think in terms of cause but in much broader terms such as duties and obligations and peoples roles in an accident situation. The study showed that respondents differentiated between the three dimensions and even though they rated causal responsibility in this scenario at the low level, because of a lack of antecedent information about the scenarios, the role and solution dimension were rated strongly in making responsibility attribution against the agent. This suggests that respondents do attribute responsibility for compensation and responsibility in terms of an agent's role in the accident scenario without having details as to the causal antecedents of an accident. Knowledge of accident antecedents appears not to deter respondents from making decisions about compensation based on the obligations and duties an agent is perceived to have as a result of their legal or social position. This provides evidence which supports Hart's contention that people make responsibility judgements as a series of attributions as opposed to a single concept. (Hamilton & Saunders, 1992).

Implications

The study offers further insight to the complexity of judgements of responsibility and the factors affecting that process. Causal factors though important in explaining events are not the only factors necessarily required to make responsibility decisions. Accidents usually are complex

events with multiple players and antecedents and people in both legal and social contexts are required to navigate this complex array of factors when making responsibility decisions. People may not always have nor understand causal antecedent information relating to an accident but may be required to make responsibility decisions against the parties involved. Understanding how people think in terms of the responsibility construct will provide researchers the means to develop instruments that better measure the complexity of the attribution decision making process.

The interaction between severity of outcome and victim type has important theoretical implications because it introduces a personal (non-dispositional) characteristic that is influenced by consequence of outcome and has not been studied within the attribution literature to date. Attribution research has largely been focused on examining personal dispositional characteristics which has in the accident literature produced limited results in terms of understanding the importance of the numerous factors that can influence people's attributions of responsibility. The results also adds weight to the view that non dispositional characteristics are important factors in people's attributions of responsibility although they have not received a prominent view in the accident attribution literature to date.

Practical implication of the influence of secondary victim in evident in the legal literature and this study supports the increasing trend to recognize secondary victims in personal injury cases. Legal case involving secondary victims are increasing in importance in the legal system in Australia. The extent people are prepared to hold an agent responsible has far reaching consequences on the insurance industry and on people's social conduct towards others.

Limitations

It must be acknowledged that the strength of the relationship between agency type and responsibility judgements could have been suppressed by the influence of people's perception of the role of insurance in society in distinguishing between an individual and a corporation. Finding a valid and reliable covariant that can measure peoples attitude to insurance would add to the sensitivity of the instrument in future studies.

Burger (1981) suggested that the experimental realism of the scenarios presented to participants could influence the strength of the relationship between factors such as outcome severity and other scenario characteristics on attributions of responsibility. The legal cases referred in the literature review demonstrate the extreme scenarios that are presented in the legal system. Diamond (1997) showed that outcome severity was more strongly correlated with attribution judgements that are made in response to more realistic simulations provided by audiotape or videotape. Although the scenario was tested for face validity a more rigorous testing regime would assist in making the instrument more sensitive and increase the strength of the relationship between the factors being tested and the dependent measures assessing responsibility attributions. The casual nature of the test setting may also have influenced respondent's strength of replies. A more formal setting free from distractions would allow the respondent to focus on the task and think more closely about the questions asked.

The quantitative nature of the study did not allow for the numerous comments that were presented to the researcher after the testing procedure. Addition of qualitative data would add insight into the attribution judgments in which people engage.

Information regarding participant demographics was not directly assessed but used as a screening devise to illuminate the nature of the sample. The influence of the proportion of parents

in the sample may have been an influence on the results given the nature of the scenario presented.

Future Directions

The factors that influence attributions of responsibility include not only dispositional and situational characteristics but also non dispositional characteristics. Future research would benefit from incorporating all three elements to better understand how people make judgments of responsibility. As outlined by Feigenson (2000) the facts of the case are the most important element in people's responsibility attributions. Building a body of knowledge on how the facts of the case, particularly personal non-dispositional and situational characteristics influence and inter-relate in attributions of responsibility can only add to attribution theory's value as a system to help researchers understand how people explain events. Understanding how situational factors and non dispositional personal characteristics interrelate in accident scenarios will provide researchers with a more holistic view of peoples attribution processes.

According to Brewin (1988, p.42) "There is nothing as practical as a good theory." However, the highly contextualized treatment (based in part on an interpersonal model such as Heider's) of responsibility and causal attributions in social psychology limits the degree to which these concepts can be imported wholesale into the study of other specific fields such as accidents, investment decisions, voting decisions, ethical dilemmas. Building a coherent, robust model of responsibility and causal attributions will enable researchers to better compare research results and reduce the amount of confusion and inconsistencies that still currently exist in the field, and be able to imported the concepts into others fields and be able to compare results in a valid way. Instrument development will also be enhanced if it is based on a comprehensive, valid and reliable model. Future research would benefit from using Harts' (1968) model in other accident

scenarios and refining the dimensions of responsibility to produce a transportable model that will allow researchers to better compare future studies and establish definitions of constructs that are consistent across studies.

Conclusion

Attribution of causality merely explains how people explain events in terms of antecedents although they important in human decision making processes. Responsibility attributions go further and consider not only the interpersonal characteristics influencing responsibility attribution but also what is appropriate and inappropriate behaviour. Hart's (1968) 'senses of responsibility' model shows that quiet different dimensions of judgement can be adopted by people making attribution judgements. Judgements in accident situations are influenced by the interaction between the nature of the victims involved and the severity of the outcomes. Future studies into the influence of other non dispositional characteristics will add to our understanding of how people explain responsibility in accidents involving personal injury and their influence in legal and social decision making.

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Appendix A

Edith Cowan University
Joondalup, Western Australia
School of Psychology

INFORMATION LETTER

PURPOSE AND BACKGROUND
My name is Henry Kwiatkowski, and I am a student in the Bachelor of Arts (Psychology) honours program at Edith Cowan University, and am conducting this research in partial fulfillment of the required research components of the degree. This research focuses on how people explain responsibility for accidents. To conduct this research I am required by the University Ethics Committee to request your permission and signed consent. The ethics Committee of the Faculty of CSESS has given approval for the research.

Any questions concerning this project can be directed to Dr Craig Speelman, Head of the School of Psychology on (08) 6304 5724

PARTICIPATION
In participating in this study the following will be required of you.

- To offer a response to some questions about an accident.
- To give approximately 10 minutes of your time.

BENEFITS
There will be no direct benefit to you from participating in this study. However, the information you provide may help social scientists better understand how individuals make sense and explain accidents and how they allocate responsibility for them.

CONFIDENTIALITY
Your name is not required for this research and the record of interview will be handled as confidentially as possible. No individual identities will be used in any reports or publications that may result from this study. Should you have any questions regarding this research you may contact my supervisors Dr. Deirdre Drake or Dr Dianne McKillop at Edith Cowan University (Joondalup Campus) on (08) 6304 5020 or (08) 6304 5736.

Appendix B

Edith Cowan University
Joondalup, Western Australia
School of Psychology

INFORMED CONSENT

I (The Participant) have been provided with a copy of the information letter and read it. Any questions I have asked have been answered to my satisfaction. I agree to take part in this activity, however, I understand that I can change my mind and withdraw my consent at anytime. I agree that research data gathered for this study may be published provided my name or any other identifying information is not used.

Date:.....

Participant:.....

Date:.....

Investigator:.....

Appendix C

Questionnaire

Condition 1 Scenario: Corporate Agent v Secondary Victim v Severe Outcomes

Question 1

To what extent was it the role of the corporation to foresee the potential for psychological trauma to the parents of a child injured at its facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 2

To what extent did the corporation have responsibility for preventing such psychological trauma suffered by the parents of a child injured at its facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 3

To what extent did the corporation fulfil its obligations to the parents to provide a safe recreational facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 4

To what extent did the corporation operating the recreational facility cause the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 5

To what extent did the corporations actions contribute to causing the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 6

To what extent is the corporation responsible for causing the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 7

To what extent should the corporation be made to pay for the psychological trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 8

To what extent should the corporation compensate the parents for the pain and suffering as a result of the accident?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Condition 2 Scenario: Corporate Agent v Secondary Victim v Mild Outcomes

Question 1

To what extent was it the role of the corporation to foresee the potential for psychological trauma to the parents of a child injured at its facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 2

To what extent did the corporation have responsibility for preventing such psychological trauma suffered by the parents of a child injured at its facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 3

To what extent did the corporation fulfil its obligations to the parents to provide a safe recreational facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 4

To what extent did the corporation operating the recreational facility cause the trauma suffered by the parents?

0_____1_____2_____3_____4_____6 _____7

not at all *maximum possible*

Question 5

To what extent did the corporations actions contribute to causing the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 6

To what extent is the corporation responsible for causing the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 7

To what extent should the corporation be made to pay for the psychological trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 8

To what extent should the corporation compensate the parents for the pain and suffering as a result of the accident?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Condition 3 scenario: Individual Agent v Secondary Victim v Severe Outcomes

Question 1

To what extent was it the role of the party host to foresee the potential for psychological trauma to the parents of a child injured at his premises?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 2

To what extent did the party host have responsibility for preventing such psychological trauma suffered by the parents of a child injured at his premises?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 3

To what extent did the part host fulfil its obligations to the parents to provide safe conditions for the party?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 4

To what extent did the party host holding the party cause the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 5

To what extent did the part hosts actions contribute to causing the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 6

To what extent is the party host responsible for causing the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 7

To what extent should the party host be made to pay for the psychological trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 8

To what extent should the party host compensate the parents for the pain and suffering as a result of the accident?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Condition 4 scenario: Individual Agent v Secondary Victim v Mild Outcomes

Question 1

To what extent was it the role of the party host to foresee the potential for psychological trauma to the parents of a child injured at his premises?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 2

To what extent did the party host have responsibility for preventing such psychological trauma suffered by the parents of a child injured at his premises?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 3

To what extent did the part host fulfil its obligations to the parents to provide safe conditions for the party?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 4

To what extent did the party host holding the party cause the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 5

To what extent did the part hosts actions contribute to causing the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 6

To what extent *is* the party host responsible for causing the trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 7

To what extent should the party host be made to pay for the psychological trauma suffered by the parents?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 8

To what extent should the party host compensate the parents for the pain and suffering as a result of the accident?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Condition 5 scenario: Corporate Agent v Primary Victim v Severe Outcomes

Question 1

To what extent was it the role of the corporation to foresee the potential for such injuries occurring to a child injured at its facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 2

To what extent did the corporation have responsibility for preventing such injuries suffered by the child injured at its facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 3

To what extent did the corporation fulfil its obligations to the child to provide a safe recreational facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 4

To what extent did the corporation operating the recreational facility cause the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 5

To what extent did the corporations actions contribute to causing the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 6

To what extent is the corporation responsible for causing the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 7

To what extent should the corporation be made to pay for the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 8

To what extent should the corporation be responsible for compensating the child injuries it suffered as a result of the accident?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Condition 6 scenario: Corporate Agent v Primary Victim v Mild Outcomes

Question 1

To what extent was it the role of the corporation to foresee the potential for such injuries occurring to a child injured at its facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 2

To what extent did the corporation have responsibility for preventing such injuries suffered by the child injured at its facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 3

To what extent did the corporation fulfils its obligations to the child to provide a safe recreational facility?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 4

To what extent did the corporation operating the recreational facility cause the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 5

To what extent did the corporations actions contribute to causing the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 6

To what extent is the corporation responsible for causing the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 7

To what extent should the corporation be made to pay for the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 8

To what extent should the corporation be responsible for compensating the child injuries it suffered as a result of the accident?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Condition 7 scenario: Individual Agent v Primary Victim v Severe Outcomes

Question 1

To what extent was it the role of the party host to foresee the potential for such injuries occurring to a child injured at his home?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 2

To what extent did the party host have responsibility for preventing such injuries suffered by the child injured at his home?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 3

To what extent did the party host fulfil its obligations to the child to provide a safe recreational environment at his home?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 4

To what extent did the party host holding a party cause the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 5

To what extent did the party hosts actions contribute to causing the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 6

To what extent is the part host responsible for causing the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 7

To what extent should the party host be made to pay for the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 8

To what extent should the part host be responsible for compensating the child injuries it suffered as a result of the accident?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Condition 8 scenario: Individual Agent v Primary Victim v Mild Outcomes

Question 1

To what extent was it the role of the party host to foresee the potential for such injuries occurring to a child injured at his home?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 2

To what extent did the party host have responsibility for preventing such injuries suffered by the child injured at his home?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 3

To what extent did the party host fulfil its obligations to the child to provide a safe recreational environment at his home?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 4

To what extent did the party host holding a party cause the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 5

To what extent did the party hosts actions contribute to causing the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 6

To what extent is the part host responsible for causing the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 7

To what extent should the party host be made to pay for the injuries suffered by the child?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Question 8

To what extent should the part host be responsible for compensating the child injuries it suffered as a result of the accident?

0_____1_____2_____3_____4_____6_____7

not at all *maximum possible*

Note:

Role responsibility questions are based on the construct outlined in Hart's (1968) Model where the words 'obligation' 'role' and 'duty' 'foresee ability' underlie the notions of 'role' as one of the three senses of responsibility. (Hamilton & Hagiwara, 1992) applied the same words in sentence construction.

Causal responsibility uses 'cause' and 'actions caused' as the operative word in line with every day usage and all previous studies have used it in instrument construction.

Solution responsibility questions refer to liability in terms of accident context. Hart (1968) uses terms such as 'pay' and 'compensate' when discussing this sense or responsibility.

N.B.The questions do not differ between the mild and severe condition as this is manipulated by the story and the same questionnaire applies for both outcome severities outcomes.

Questions 1-3 refer to role responsibility

Questions 4-6 refer to causal responsibility

Questions 7-8 refer to solution responsibility

Appendix D

Scenarios

Condition 1 Scenario: Corporate Agent v Secondary Victim v Severe Outcomes

Eight year old Johnny was dropped off by his parents at the aquatic centre for his usual summer swimming class. Johnny plays later at the junior pool where they have a water slide. The pool is supervised with a safety officer in attendance at all times monitoring the children's activities as it is the summer vacation period and the busiest time of the year for the pool facility. Johnny is playing on the slide. There is a commotion and the safety officer is called as Johnny is injured. On arriving the boy is found unconscious and bleeding around the head region. The safety officer was told the child fell off the slide. Following all the required safety procedures the boy was taken to hospital and the parents informed. Johnny was diagnosed with a fractured skull, internal injuries, severe concussion and facial bruising.

Johnny was in coma for two days and it took him 6 months to recover from his injuries. The accident has resulted in Johnny having brain damage resulting in a mild limp and difficulties in speaking. Permanent facial scaring leaves him with a deformed nose, and his parents are informed by doctors that he will have to wear a safety helmet when doing vigorous activities for the next two years. The doctors stated that the brain damage may also affect his learning abilities in the future. This accident results in both parents developing severe anxiety and depression with both unable to work for eight months while Johnny is recovering. The psychiatric reports show that they have developed a psychiatric condition; post traumatic stress disorder associated with their child's trauma and will require ongoing counselling. They are also on medication for depression and anxiety.

Condition 2 Scenario: Corporate Agent v Secondary Victim v Mild Outcomes

Eight year old Johnny was dropped off by his parents at the aquatic centre for his usual summer swimming class. Johnny plays later at the junior pool where they have a water slide. The pool is supervised with a safety officer in attendance at all times monitoring the children's activities as it is the summer vacation period and the busiest time of the year for the pool facility. Johnny is playing on the slide. There was a commotion and the safety officer is called as Johnny is injured. On arriving the boy is found crying and rubbing his head and with scraped knees bleeding a little. The safety officer was told the child fell off the slide. Following all the required safety procedures the boy was taken to hospital and the parents informed. Johnny was diagnosed with a broken arm, mild concussion, bruising and minor scratches on his arms and hands. Johnny stayed overnight in hospital and recovered from his injuries in a few weeks but occasionally express being afraid to climb up on high items like a ladder. The accident has resulted in Johnny sustaining minor permanent facial scaring and his parents are informed by doctors that he will have to wear a safety helmet when doing vigorous activities for the next two years. This accident resulted in both parents developing mild anxiety. A psychiatric report show that they have developed a mild stress disorder associated with their child's trauma and will require a short period of counselling.

Condition 3 scenario: Individual Agent v Secondary Victim v Severe Outcomes

Eight year old Johnny was dropped off by his parents at one of his friend's for a pool party. Johnny's parents know the friends father (party host). Johnny has visited on many occasions to play in the backyard pool. The pool and an attached slide and has been approved by the local safety authorities. The homeowner takes his responsibility seriously and supervises the children at all times while they are in the pool. The party is attended by many of Johnny's friends. Johnny is playing on the slide. There is a commotion and the party host is alerted. On arriving the boy was found unconscious and bleeding around the head region. The father was informed that Johnny had fallen off the slide. The party host administered first aid and the boy is taken to hospital and his parents informed. Johnny was diagnosed with a fractured skull, internal injuries, severe concussion and facial bruising.

Johnny was in coma for two days and it took him 6 months to recover from his injuries. The accident has resulted in Johnny having brain damage resulting in a mild limp and difficulties in speaking. Permanent facial scaring leaves him with a deformed nose, and his parents are informed by doctors that he will have to wear a safety helmet when doing vigorous activities for the next two years. The doctors stated that the brain damage may also affect his learning abilities in the future. This accident results in both parents developing a severe anxiety and depression with both unable to work for eight months while Johnny is recovering. The psychiatric reports show that they have developed a psychiatric condition; post traumatic stress disorder associated with their child's trauma and will require ongoing counselling. They are also on medication for depression and anxiety.

Condition 4 scenario: Individual Agent v Secondary Victim v Mild Outcomes

Eight year old Johnny was dropped off by his parents at the aquatic centre for his usual summer swimming class. Johnny plays later at the junior pool where they have a water slide. The pool is supervised with a safety officer in attendance at all times monitoring the children's activities as it is the summer vacation period and the busiest time of the year for the pool facility. Johnny is playing on the slide. There is a commotion and the safety officer is alerted. On arriving the boy is found unconscious and bleeding around the head region. The father was informed that Johnny had fallen off the slide. The safety officer administered first aid and the boy is taken to hospital and the parents informed. Johnny was diagnosed with a broken arm, mild concussion, bruising and minor scratches on his arms and hands. Johnny stayed overnight in hospital and recovered from his injuries in a few weeks but occasionally express being afraid to climb up on high items like a ladder. The accident has resulted in Johnny sustaining minor permanent facial scaring and his parents are informed by doctors that he will have to wear a safety helmet when doing vigorous activities for the next two years. This accident resulted in both parents developing mild anxiety. A psychiatric report show that they have developed a mild stress disorder associated with their child's trauma and will require a short period counselling.

Condition 5 Scenario: Corporate Agent v Primary Victim v Severe Outcomes

Eight year old Johnny was dropped off by his parents at the aquatic centre for his usual summer swimming class. Johnny plays later at the junior pool where they have a water slide. The pool is supervised with a safety officer in attendance at all times monitoring the children's activities as it is the summer vacation period and the busiest time of the year for the pool facility. Johnny is playing on the slide. There is a commotion and the safety officer is called as Johnny is injured. On arriving the boy is found unconscious and bleeding around the head region. The safety officer was told the child fell off the slide. Following all the required safety procedure and the boy is taken to hospital and the parents informed. Johnny is diagnosed with a fractured skull, internal injuries, severe concussion and facial bruising.

Johnny was in coma for two days and it took him 6 months to recover from his injuries. The accident has resulted in Johnny sustaining brain damage resulting in a mild limp and difficulties in speaking. Permanent facial scaring leaves him with a deformed nose, and his parents are informed by doctors that he will have to wear a safety helmet when doing vigorous activities for the next two years. The doctors stated that the brain damage may also affect his learning abilities in the future.

Condition 6 Scenario: Corporate Agent v Primary Victim v Mild Outcomes

Eight year old Johnny was dropped off by his parents at the aquatic centre for his usual summer swimming class. Johnny plays later at the junior pool where they have a water slide. The pool is supervised with a safety officer in attendance at all times monitoring the children's activities as it is the summer vacation period and the busiest time of the year for the pool facility. Johnny is playing on the slide. There was a commotion and the safety officer is called as Johnny is injured. On arriving the boy is found crying and rubbing his head and with scraped knees bleeding a little. The safety officer was told the child fell off the slide. Following all the required safety procedure and the boy is taken to hospital and the parents informed. Johnny is diagnosed with a broken arm, mild concussion, bruising and minor scratches on his arms and hands. Johnny stayed overnight in hospital and recovered from his injuries in a few weeks but occasionally express being afraid to climb up on high items like a ladder. The accident has resulted in Johnny sustaining minor permanent facial scaring and his parents are informed by doctors that he will have to wear a safety helmet when doing vigorous activities for the next two years.

Condition 7 scenario: Individual Agent v Primary Victim v Severe Outcomes

Eight year old Johnny was dropped off by his parents at one of his friend's for a pool party. Johnny's parents know the friends father (party host). Johnny has visited on many occasions to play in the backyard pool. The pool and an attached slide and has been approved by the local safety authorities. The party host takes his responsibility seriously and supervises the child at all time while they are in the pool. The party host is attended by many of Johnny's friends. Johnny is playing on the slide. There is a commotion and the party host is alerted. On arriving the boy was found unconscious and bleeding around the head region. The father was informed that Johnny had fallen off the slide. The party host administered first aid and the boy is taken to hospital and the parents informed. Johnny was diagnosed with a fractured skull, internal injuries, severe concussion and facial bruising.

Johnny was in coma for two days and it took him 6 months to recover from his injuries. The accident has resulted in Johnny having brain damage resulting in a mild limp and difficulties in speaking. Permanent facial scaring leaves him with a deformed nose, and his parents are informed by doctors that he will have to wear a safety helmet when doing vigorous activities for the next two years. The doctors stated that the brain damage may also affect his learning abilities in the future.

Condition 8 scenario: Individual Agent v Primary Victim v Mild Outcomes

Eight year old Johnny was dropped off by his parents at the aquatic centre for his usual summer swimming class. Johnny plays later at the junior pool where they have a water slide. The pool is supervised with a safety officer in attendance at all times monitoring the children's activities as it is the summer vacation period and the busiest time of the year for the pool facility. Johnny is playing on the slide. There is a commotion and the party host is alerted. On arriving the boy is found unconscious and bleeding around the head region. The father was informed that Johnny had fallen off the slide. The party host administered first aid and the boy is taken to hospital and the parents informed. Johnny is diagnosed with a broken arm, mild concussion, some bruising and minor scratches on his arms and hands. Johnny stayed overnight in hospital and recovered from his injuries in a few weeks but occasionally express being afraid to climb up on high items like a ladder. The accident has resulted in Johnny sustaining minor permanent facial scaring and his parents are informed by doctors that he will have to wear a safety helmet when doing vigorous activities for the next two years.

Appendix E

Demographic Questionnaire

Please name the location you are at.

Location:……..

Please indicate your age by circling your age group.

Age Group: a) 18-36 b) 36 to 55 c) above 56

Please indicate the level of education completed at this point by circling the appropriate answer.

Education: a) Secondary Level b) Technical/TAFE c) Tertiary

Please indicate your gender by circling the appropriate answer.

Gender: a) Male b) Female

Please indicate if you are a parent by circling the appropriate answer.

Parental Status: a) Yes b) No

Thank you for your participation

Univariate Analysis of Variance Role Responsibility

Between-Subjects Factors

		Value Label	N
SEVERITY	1.00	mild	80
	2.00	severe	80
VICTIM	1.00	primary	80
	2.00	secondary	80
AGENCY	1.00	individual	80
	2.00	group	80

Descriptive Statistics

Dependent Variable: ROLE

SEVERITY	VICTIM	AGENCY	Mean	Std. Deviation	N
mild	primary	individual	6.4500	1.08700	20
		group	5.8500	1.30888	20
		Total	6.1500	1.22579	40
	secondary	individual	2.1000	1.48324	20
		group	1.1750	.92160	20
		Total	1.6375	1.30574	40
	Total	individual	4.2750	2.54938	40
		group	3.5125	2.61771	40
		Total	3.8938	2.59588	80
severe	primary	individual	6.2000	1.00525	20
		group	6.2750	1.08185	20
		Total	6.2375	1.03148	40
	secondary	individual	5.5000	1.24605	20
		group	6.1800	3.02387	20
		Total	5.8400	2.30860	40
	Total	individual	5.8500	1.17233	40
		group	6.2275	2.24214	40
		Total	6.0387	1.78783	80
Total	primary	individual	6.3250	1.04114	40
		group	6.0625	1.20463	40
		Total	6.1938	1.12648	80
	secondary	individual	3.8000	2.18913	40
		group	3.6775	3.36029	40
		Total	3.7387	2.81850	80
	Total	individual	5.0625	2.12486	80
		group	4.8700	2.78042	80
		Total	4.9663	2.46854	160

Levene's Test of Equality of Error Variances[a]

Dependent Variable: ROLE

F	df1	df2	Sig.
1.291	7	152	.258

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+SEVERITY+VICTIM+AGENCY+SEVERITY * VICTIM+SEVERITY * AGENCY+VICTIM * AGENCY+SEVERITY * VICTIM * AGENCY

Univariate Analysis of Variance Role Responsibility

Between-Subjects Factors

		Value Label	N
SEVERITY	1.00	mild	80
	2.00	severe	80
VICTIM	1.00	primary	80
	2.00	secondary	80
AGENCY	1.00	individual	80
	2.00	group	80

Descriptive Statistics

Dependent Variable: ROLE

SEVERITY	VICTIM	AGENCY	Mean	Std. Deviation	N
mild	primary	individual	6.4500	1.08700	20
		group	5.8500	1.30888	20
		Total	6.1500	1.22579	40
	secondary	individual	2.1000	1.48324	20
		group	1.1750	.92160	20
		Total	1.6375	1.30574	40
	Total	individual	4.2750	2.54938	40
		group	3.5125	2.61771	40
		Total	3.8938	2.59588	80
severe	primary	individual	6.2000	1.00525	20
		group	6.2750	1.08185	20
		Total	6.2375	1.03148	40
	secondary	individual	5.5000	1.24605	20
		group	6.1800	3.02387	20
		Total	5.8400	2.30860	40
	Total	individual	5.8500	1.17233	40
		group	6.2275	2.24214	40
		Total	6.0387	1.78783	80
Total	primary	individual	6.3250	1.04114	40
		group	6.0625	1.20463	40
		Total	6.1938	1.12648	80
	secondary	individual	3.8000	2.18913	40
		group	3.6775	3.36029	40
		Total	3.7387	2.81850	80
	Total	individual	5.0625	2.12486	80
		group	4.8700	2.78042	80
		Total	4.9663	2.46854	160

Levene's Test of Equality of Error Variances[a]

Dependent Variable: ROLE

F	df1	df2	Sig.
1.291	7	152	.258

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+SEVERITY+VICTIM+AGENCY+SEVERITY * VICTIM+SEVERITY * AGENCY+VICTIM * AGENCY+SEVERITY * VICTIM * AGENCY

Tests of Between-Subjects Effects

Dependent Variable: ROLE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	611.291[a]	7	87.327	37.118	.000	.631
Intercept	3946.182	1	3946.182	1677.315	.000	.917
SEVERITY	184.041	1	184.041	78.226	.000	.340
VICTIM	241.081	1	241.031	42.471	.000	.403
AGENCY	1.482	1	1.482	.630	.429	.004
SEVERITY * VICTIM	169.332	1	169.332	71.974	.000	.321
SEVERITY * AGENCY	12.996	1	12.996	5.524	.020	.035
VICTIM * AGENCY	.196	1	.196	.083	.773	.001
SEVERITY * VICTIM * AGENCY	2.162	1	2.162	.919	.339	.006
Error	357.607	152	2.353			
Total	4915.080	160				
Corrected Total	968.898	159				

a. R Squared = .631 (Adjusted R Squared = .614)

Estimated Marginal Means

1. Grand Mean

Dependent Variable: ROLE

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
4.966	.121	4.727	5.206

2. SEVERITY

Dependent Variable: ROLE

SEVERITY	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
mild	3.894	.171	3.555	4.233
severe	6.039	.171	5.700	6.378

3. VICTIM

Dependent Variable: ROLE

VICTIM	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
primary	6.194	.171	5.855	6.533
secondary	3.739	.171	3.400	4.078

4. AGENCY

Dependent Variable: ROLE

AGENCY	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
individual	5.062	.171	4.724	5.401
group	4.870	.171	4.531	5.209

5. SEVERITY * VICTIM

Dependent Variable: ROLE

SEVERITY	VICTIM	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
mild	primary	6.150	.243	5.671	6.629
	secondary	1.637	.243	1.158	2.117
severe	primary	6.238	.243	5.758	6.717
	secondary	5.840	.243	5.361	6.319

6. SEVERITY * AGENCY

Dependent Variable: ROLE

SEVERITY	AGENCY	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
mild	individual	4.275	.243	3.796	4.754
	group	3.513	.243	3.033	3.992
severe	individual	5.850	.243	5.371	6.329
	group	6.227	.243	5.748	6.707

7. VICTIM * AGENCY

Dependent Variable: ROLE

VICTIM	AGENCY	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
primary	individual	6.325	.243	5.846	6.804
	group	6.063	.243	5.583	6.542
secondary	individual	3.800	.243	3.321	4.279
	group	3.677	.243	3.198	4.157

Univariate Analysis of Variance: Causal Responsibility

Between-Subjects Factors

		Value Label	N
SEVERITY	1.00	mild	80
	2.00	severe	80
VICTIM	1.00	primary	80
	2.00	secondary	80
AGENCY	1.00	individual	80
	2.00	group	80

Descriptive Statistics

Dependent Variable: CAUSAL

SEVERITY	VICTIM	AGENCY	Mean	Std. Deviation	N
mild	primary	individual	2.7500	1.39076	20
		group	2.7000	1.46359	20
		Total	2.7250	1.40945	40
	secondary	individual	1.5000	.81111	20
		group	1.4500	.75915	20
		Total	1.4750	.77584	40
	Total	individual	2.1250	1.28975	40
		group	2.0750	1.31339	40
		Total	2.1000	1.29361	80
severe	primary	individual	3.2000	1.09304	20
		group	2.7500	1.25132	20
		Total	2.9750	1.18186	40
	secondary	individual	3.3000	1.52523	20
		group	2.0000	1.10024	20
		Total	2.6500	1.46847	40
	Total	individual	3.2500	1.31071	40
		group	2.3750	1.22344	40
		Total	2.8125	1.33449	80
Total	primary	individual	2.9750	1.25550	40
		group	2.7250	1.34427	40
		Total	2.8500	1.29849	80
	secondary	individual	2.4000	1.51149	40
		group	1.7250	.97369	40
		Total	2.0625	1.30814	80
	Total	individual	2.6875	1.41057	80
		group	2.2250	1.27015	80
		Total	2.4562	1.35793	160

Levene's Test of Equality of Error Variances[a]

Dependent Variable: CAUSAL

F	df1	df2	Sig.
2.889	7	152	.201

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+SEVERITY+VICTIM+AGENCY+SEVERITY * VICTIM+SEVERITY * AGENCY+VICTIM * AGENCY+SEVERITY * VICTIM * AGENCY

Tests of Between-Subjects Effects

Dependent Variable: CAUSAL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	72.644[a]	7	10.378	7.152	.000	.248
Intercept	965.306	1	965.306	665.276	.000	.814
SEVERITY	20.306	1	20.306	13.995	.000	.084
VICTIM	24.806	1	24.806	17.096	.000	.101
AGENCY	8.556	1	8.556	5.897	.016	.037
SEVERITY * VICTIM	8.556	1	8.556	5.897	.016	.037
SEVERITY * AGENCY	6.806	1	6.806	4.691	.032	.030
VICTIM * AGENCY	1.806	1	1.806	1.245	.266	.008
SEVERITY * VICTIM * AGENCY	1.806	1	1.806	1.245	.266	.008
Error	220.550	152	1.451			
Total	1258.500	160				
Corrected Total	293.194	159				

a. R Squared = .248 (Adjusted R Squared = .213)

Estimated Marginal Means

1. Grand Mean

Dependent Variable: CAUSAL

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
2.456	.095	2.268	2.644

2. SEVERITY

Dependent Variable: CAUSAL

SEVERITY	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
mild	2.100	.135	1.834	2.366
severe	2.813	.135	2.546	3.079

3. VICTIM

Dependent Variable: CAUSAL

VICTIM	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
primary	2.850	.135	2.584	3.116
secondary	2.063	.135	1.796	2.329

4. AGENCY

Dependent Variable: CAUSAL

AGENCY	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
individual	2.688	.135	2.421	2.954
group	2.225	.135	1.959	2.491

5. SEVERITY * VICTIM

Dependent Variable: CAUSAL

SEVERITY	VICTIM	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
mild	primary	2.725	.190	2.349	3.101
	secondary	1.475	.190	1.099	1.851
severe	primary	2.975	.190	2.599	3.351
	secondary	2.650	.190	2.274	3.026

6. SEVERITY * AGENCY

Dependent Variable: CAUSAL

SEVERITY	AGENCY	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
mild	individual	2.125	.190	1.749	2.501
	group	2.075	.190	1.699	2.451
severe	individual	3.250	.190	2.874	3.626
	group	2.375	.190	1.999	2.751

7. VICTIM * AGENCY

Dependent Variable: CAUSAL

VICTIM	AGENCY	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
primary	individual	2.975	.190	2.599	3.351
	group	2.725	.190	2.349	3.101
secondary	individual	2.400	.190	2.024	2.776
	group	1.725	.190	1.349	2.101

Univariate Analysis of Variance Solution Responsibility

Between-Subjects Factors

		Value Label	N
SEVERITY	1.00	mild	80
	2.00	severe	80
VICTIM	1.00	primary	80
	2.00	secondary	80
AGENCY	1.00	individual	80
	2.00	group	80

Descriptive Statistics

Dependent Variable: SOLUTION

SEVERITY	VICTIM	AGENCY	Mean	Std. Deviation	N
mild	primary	individual	5.1375	1.16550	20
		group	5.1100	1.18983	20
		Total	5.1237	1.16261	40
	secondary	individual	2.2000	1.64157	20
		group	3.2053	2.95738	20
		Total	2.7026	1.42073	40
	Total	individual	3.6688	2.04625	40
		group	4.1576	1.43753	40
		Total	3.9132	1.77419	80
severe	primary	individual	5.8500	1.30888	20
		group	6.4500	1.08700	20
		Total	6.1500	1.22579	40
	secondary	individual	5.9100	1.16264	20
		group	6.5850	2.60265	20
		Total	6.2475	2.97586	40
	Total	individual	5.8800	1.22232	40
		group	6.5175	2.87020	40
		Total	6.1987	1.10195	80
Total	primary	individual	5.4938	1.27537	40
		group	5.7800	1.31368	40
		Total	5.6369	1.29448	80
	secondary	individual	4.0550	2.34534	40
		group	4.8951	1.88477	40
		Total	4.4751	2.15589	80
	Total	individual	4.7744	2.01060	80
		group	5.3376	1.67448	80
		Total	5.0560	1.86587	160

Levene's Test of Equality of Error Variances[a]

Dependent Variable: SOLUTION

F	df1	df2	Sig.
4.176	7	152	.253

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+SEVERITY+VICTIM+AGENCY+SEVERITY * VICTIM+SEVERITY * AGENCY+VICTIM * AGENCY+SEVERITY * VICTIM * AGENCY

Tests of Between-Subjects Effects

Dependent Variable: SOLUTION

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	344.648[a]	7	49.235	35.824	.000	.623
Intercept	4090.051	1	4090.051	2975.923	.000	.951
SEVERITY	208.952	1	208.952	52.033	.000	.500
VICTIM	53.992	1	53.992	39.285	.000	.205
AGENCY	12.687	1	12.687	9.231	.003	.057
SEVERITY * VICTIM	63.435	1	63.435	46.155	.000	.233
SEVERITY * AGENCY	.221	1	.221	.161	.689	.001
VICTIM * AGENCY	3.068	1	3.068	2.232	.008	.014
SEVERITY * VICTIM * AGENCY	2.293	1	2.293	1.669	.198	.011
Error	208.906	152	1.374			
Total	4643.605	160				
Corrected Total	553.554	159				

a. R Squared = .623 (Adjusted R Squared = .605)

Estimated Marginal Means

1. Grand Mean

Dependent Variable: SOLUTION

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
5.056	.093	4.873	5.239

2. SEVERITY

Dependent Variable: SOLUTION

SEVERITY	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
mild	3.913	.131	3.654	4.172
severe	6.199	.131	5.940	6.458

3. VICTIM

Dependent Variable: SOLUTION

VICTIM	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
primary	5.637	.131	5.378	5.896
secondary	4.475	.131	4.216	4.734

4. AGENCY

Dependent Variable: SOLUTION

AGENCY	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Individual	4.774	.131	4.515	5.033
group	5.338	.131	5.079	5.597

5. SEVERITY * VICTIM

Dependent Variable: SOLUTION

SEVERITY	VICTIM	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
mild	primary	5.124	.185	4.758	5.490
	secondary	2.703	.185	2.336	3.069
severe	primary	6.150	.185	5.784	6.516
	secondary	6.248	.185	5.881	6.614

6. VICTIM * AGENCY

Dependent Variable: SOLUTION

VICTIM	AGENCY	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
primary	individual	5.494	.185	5.128	5.860
	group	5.780	.185	5.414	6.146
secondary	individual	4.055	.185	3.689	4.421
	group	4.895	.185	4.529	5.261

NPar Tests

Mann-Whitney Test mild level

Ranks

	VICTIM	N	Mean Rank	Sum of Ranks
ROLE	primary	40	59.80	2392.00
	secondary	40	21.20	848.00
	Total	80		

Test Statistics[a]

	ROLE
Mann-Whitney U	28.000
Wilcoxon W	848.000
Z	-7.501
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: VICTIM

NPar Tests

Mann-Whitney Test severe level

Ranks

	VICTIM	N	Mean Rank	Sum of Ranks
ROLE	primary	40	47.38	1895.00
	secondary	40	33.63	1345.00
	Total	80		

Test Statistics[a]

	ROLE
Mann-Whitney U	125.000
Wilcoxon W	1345.000
Z	-2.720
Asymp. Sig. (2-tailed)	.007

a. Grouping Variable: VICTIM

NPar Tests

Mann-Whitney Test mild level

Ranks

	AGENCY	N	Mean Rank	Sum of Ranks
ROLE	individual	40	44.90	1796.00
	group	40	36.10	1444.00
	Total	80		

Test Statistics[a]

	ROLE
Mann-Whitney U	624.000
Wilcoxon W	1444.000
Z	-1.710
Asymp. Sig. (2-tailed)	.087

a. Grouping Variable: AGENCY

NPar Tests

Mann-Whitney Test severe level

Ranks

	AGENCY	N	Mean Rank	Sum of Ranks
ROLE	individual	40	39.10	1564.00
	group	40	41.90	1676.00
	Total	80		

Test Statistics[a]

	ROLE
Mann-Whitney U	744.000
Wilcoxon W	1564.000
Z	-.554
Asymp. Sig. (2-tailed)	.580

a. Grouping Variable: AGENCY

NPar Tests

Mann-Whitney Test severe level

Ranks

	VICTIM	N	Mean Rank	Sum of Ranks
CAUSAL	primary	40	43.65	1746.00
	secondary	40	37.35	1494.00
	Total	80		

Test Statistics[a]

	CAUSAL
Mann-Whitney U	674.000
Wilcoxon W	1494.000
Z	-1.232
Asymp. Sig. (2-tailed)	.218

a. Grouping Variable: VICTIM

NPar Tests

Mann-Whitney Test mild level

Ranks

	VICTIM	N	Mean Rank	Sum of Ranks
CAUSAL	primary	40	50.72	2029.00
	secondary	40	30.27	1211.00
	Total	80		

Test Statistics[a]

	CAUSAL
Mann-Whitney U	391.000
Wilcoxon W	1211.000
Z	-4.050
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: VICTIM

NPar Tests

Mann-Whitney Test: mild level

Ranks

	AGENCY	N	Mean Rank	Sum of Ranks
CAUSAL	individual	40	40.41	1616.50
	group	40	40.59	1623.50
	Total	80		

Test Statistics[a]

	CAUSAL
Mann-Whitney U	796.500
Wilcoxon W	1616.500
Z	-.035
Asymp. Sig. (2-tailed)	.972

a. Grouping Variable: AGENCY

NPar Tests

Mann-Whitney Test: severe level

Ranks

	AGENCY	N	Mean Rank	Sum of Ranks
CAUSAL	individual	40	48.24	1929.50
	group	40	32.76	1310.50
	Total	80		

Test Statistics[a]

	CAUSAL
Mann-Whitney U	490.500
Wilcoxon W	1310.500
Z	-3.026
Asymp. Sig. (2-tailed)	.002

a. Grouping Variable: AGENCY

NPar Tests

Mann-Whitney Test: mild level

Ranks

	VICTIM	N	Mean Rank	Sum of Ranks
SOLUTION	primary	40	56.78	2271.00
	secondary	40	24.23	969.00
	Total	80		

Test Statistics[a]

	SOLUTION
Mann-Whitney U	149.000
Wilcoxon W	969.000
Z	-6.286
Asymp. Sig. (2-tailed)	,000

a. Grouping Variable: VICTIM

NPar Tests

Mann-Whitney Test: severe level

Ranks

	VICTIM	N	Mean Rank	Sum of Ranks
SOLUTION	primary	40	42.91	1716.50
	secondary	40	38.09	1523.50
	Total	80		

Test Statistics[a]

	SOLUTION
Mann-Whitney U	703.500
Wilcoxon W	1523.500
Z	-.958
Asymp. Sig. (2-tailed)	,338

a. Grouping Variable: VICTIM

NPar Tests

Mann-Whitney Test: primary victim

Ranks

	AGENCY	N	Mean Rank	Sum of Ranks
SOLUTION	individual	40	37.01	1480.50
	group	40	43.99	1759.50
	Total	80		

Test Statistics[a]

	SOLUTION
Mann-Whitney U	660.500
Wilcoxon W	1480.500
Z	-1.363
Asymp. Sig. (2-tailed)	.173

a. Grouping Variable: AGENCY

NPar Tests

Mann-Whitney Test: Secondary Victim

Ranks

	AGENCY	N	Mean Rank	Sum of Ranks
SOLUTION	individual	40	34.54	1381.50
	group	40	46.46	1858.50
	Total	80		

Test Statistics[a]

	SOLUTION
Mann-Whitney U	561.500
Wilcoxon W	1381.500
Z	-2.305
Asymp. Sig. (2-tailed)	.021

a. Grouping Variable: AGENCY

Explore

SEVERITY

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	SEVERITY	N	Percent	N	Percent	N	Percent
ROLE	mild	80	100.0%	0	.0%	80	100.0%
	severe	80	100.0%	0	.0%	80	100.0%
CAUSAL	mild	80	100.0%	0	.0%	80	100.0%
	severe	80	100.0%	0	.0%	80	100.0%
SOLUTION	mild	80	100.0%	0	.0%	80	100.0%
	severe	80	100.0%	0	.0%	80	100.0%

Descriptives

	SEVERITY			Statistic	Std. Error
ROLE	mild	Mean		3.8938	.29023
		95% Confidence Interval for Mean	Lower Bound	3.3161	
			Upper Bound	4.4714	
		5% Trimmed Mean		3.9375	
		Median		4.0000	
		Variance		6.739	
		Std. Deviation		2.59588	
		Minimum		.00	
		Maximum		7.00	
		Range		7.00	
		Interquartile Range		4.8750	
		Skewness		-.078	.269
		Kurtosis		-1.611	.532
	severe	Mean		6.0388	.19989
		95% Confidence Interval for Mean	Lower Bound	5.6409	
			Upper Bound	6.4366	
		5% Trimmed Mean		5.9806	
		Median		6.5000	
		Variance		3.196	
		Std. Deviation		1.78783	
		Minimum		3.00	
		Maximum		18.00	
		Range		15.00	
		Interquartile Range		2.0000	
		Skewness		3.570	.269
		Kurtosis		24.791	.532

Descriptives

	SEVERITY			Statistic	Std. Error
CAUSAL	mild	Mean		2.1000	.14463
		95% Confidence Interval for Mean	Lower Bound	1.8121	
			Upper Bound	2.3879	
		5% Trimmed Mean		2.0417	
		Median		2.0000	
		Variance		1.673	
		Std. Deviation		1.29361	
		Minimum		.00	
		Maximum		5.50	
		Range		5.50	
		Interquartile Range		1.5000	
		Skewness		.894	.269
		Kurtosis		.216	.532
	severe	Mean		2.8125	.14920
		95% Confidence Interval for Mean	Lower Bound	2.5155	
			Upper Bound	3.1095	
		5% Trimmed Mean		2.7917	
		Median		3.0000	
		Variance		1.781	
		Std. Deviation		1.33449	
		Minimum		.00	
		Maximum		6.00	
		Range		6.00	
		Interquartile Range		2.0000	
		Skewness		.214	.269
		Kurtosis		-.649	.532
SOLUTION	mild	Mean		3.9132	.19836
		95% Confidence Interval for Mean	Lower Bound	3.5184	
			Upper Bound	4.3080	
		5% Trimmed Mean		3.9285	
		Median		3.9000	
		Variance		3.148	
		Std. Deviation		1.77419	
		Minimum		1.00	
		Maximum		6.70	
		Range		5.70	
		Interquartile Range		2.7500	
		Skewness		-.266	.269
		Kurtosis		-.996	.532
	severe	Mean		6.1987	.12320
		95% Confidence Interval for Mean	Lower Bound	5.9535	
			Upper Bound	6.4440	
		5% Trimmed Mean		6.3424	
		Median		6.5000	
		Variance		1.214	
		Std. Deviation		1.10195	
		Minimum		1.75	
		Maximum		7.00	
		Range		5.25	
		Interquartile Range		.7500	
		Skewness		-2.135	.269
		Kurtosis		4.207	.532

ROLE

Stem-and-Leaf Plots

ROLE Stem-and-Leaf Plot for
SEVERITY= mild

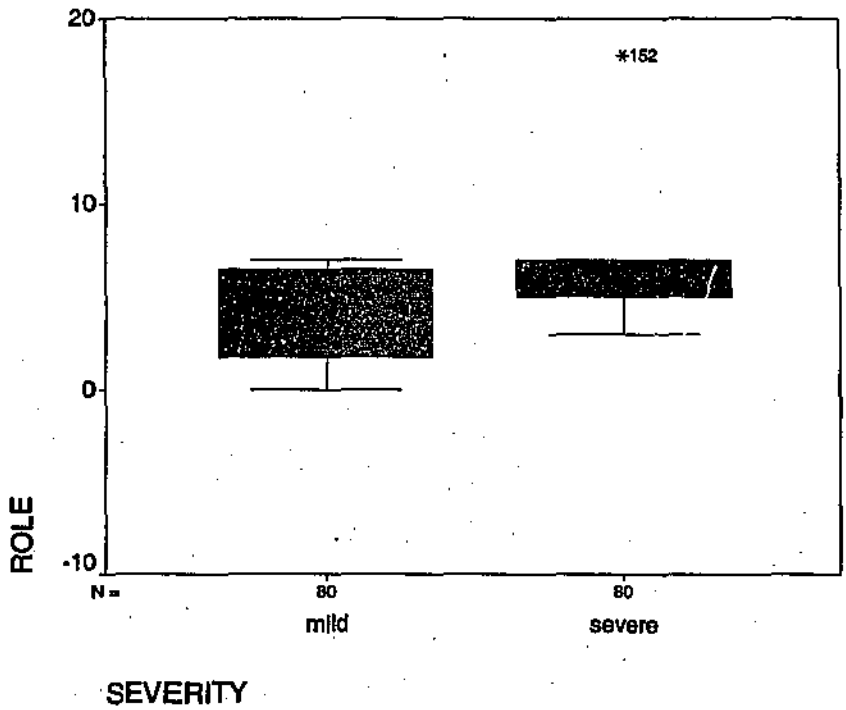
Frequency	Stem &	Leaf
12.00	0 .	000000555555
8.00	1 .	00000005
14.00	2 .	00000000005555
4.00	3 .	0005
8.00	4 .	00000000
2.00	5 .	05
17.00	6 .	05555555555555555
15.00	7 .	000000000000000

Stem width: 1.00
Each leaf: 1 case(s)

ROLE Stem-and-Leaf Plot for
SEVERITY= severe

Frequency	Stem &	Leaf
2.00	3 .	00
1.00	3 .	5
7.00	4 .	0000000
9.00	4 .	555555588
4.00	5 .	0000
8.00	5 .	55555555
8.00	6 .	00000000
11.00	6 .	55555555555
29.00	7 .	00000000000000000000000000000
1.00 Extremes		(>=18.0)

Stem width: 1.00
Each leaf: 1 case(s)



CAUSAL

Stem-and-Leaf Plots

CAUSAL Stem-and-Leaf Plot for
SEVERITY= mild

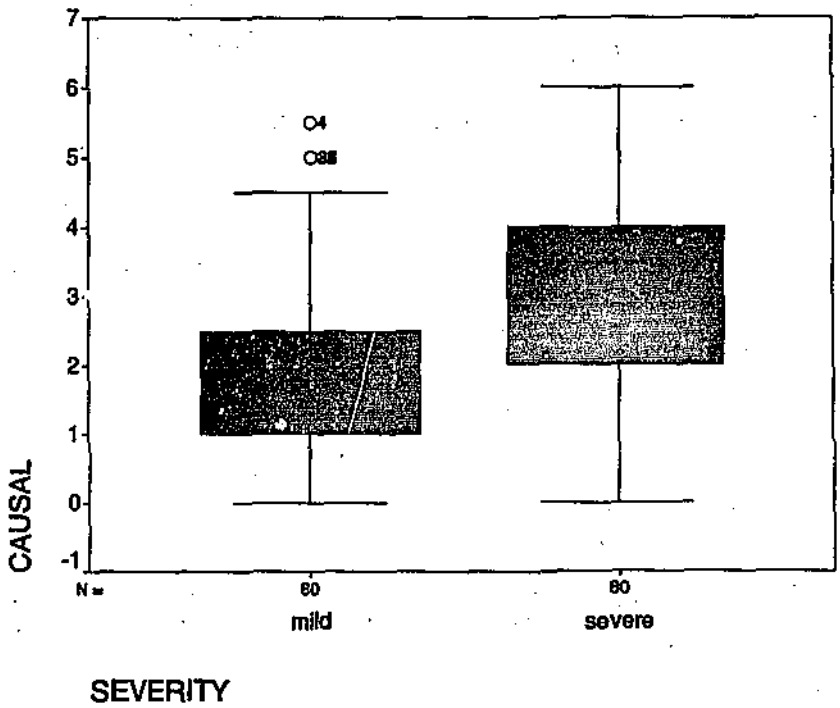
Frequency	Stem &	Leaf
3.00	0 .	000
2.00	0 .	55
22.00	1 .	0000000000000000000000
4.00	1 .	5555
26.00	2 .	00000000000000000000000000
4.00	2 .	5555
5.00	3 .	00000
2.00	3 .	55
4.00	4 .	0000
3.00	4 .	555
5.00	Extremes	(>=5.0)

Stem width: 1.00
Each leaf: 1 case(s)

CAUSAL Stem-and-Leaf Plot for
SEVERITY= severe

Frequency	Stem &	Leaf
2.00	0 .	05
13.00	1 .	0000000000055
24.00	2 .	000000000000000000555555
15.00	3 .	000000000000000
17.00	4 .	00000000000000000
8.00	5 .	00000005
1.00	6 .	0

Stem width: 1.00
Each leaf: 1 case(s)



SOLUTION

Stem-and-Leaf Plots

SOLUTION Stem-and-Leaf Plot for
SEVERITY= mild

Frequency	Stem &	Leaf
14.00	1 .	00000000000007
7.00	2 .	2255777
19.00	3 .	0000022255555777778
9.00	4 .	000022555
19.00	5 .	0000002225555555577
12.00	6 .	002225555557

Stem width: 1.00
Each leaf: 1 case(s)

SOLUTION Stem-and-Leaf Plot for
SEVERITY= severe

Frequency	Stem &	Leaf
10.00 Extremes		(=<4.5)
1.00	5 .	2
4.00	5 .	5557
9.00	6 .	022222223
34.00	6 .	555555555555555555555555557777778
22.00	7 .	0000000000000000000000

Stem width: 1.00
Each leaf: 1 case(s)

VICTIM

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	VICTIM	N	Percent	N	Percent	N	Percent
ROLE	primary	80	100.0%	0	.0%	80	100.0%
	secondary	80	100.0%	0	.0%	80	100.0%
CAUSAL	primary	80	100.0%	0	.0%	80	100.0%
	secondary	80	100.0%	0	.0%	80	100.0%
SOLUTION	primary	80	100.0%	0	.0%	80	100.0%
	secondary	80	100.0%	0	.0%	80	100.0%

Descriptives

	VICTIM			Statistic	Std. Error
ROLE	primary	Mean		6.1938	.12594
		95% Confidence Interval for Mean	Lower Bound	5.9431	
			Upper Bound	6.4444	
		5% Trimmed Mean		6.3056	
		Median		6.5000	
		Variance		1.269	
		Std. Deviation		1.12648	
		Minimum		3.00	
		Maximum		7.00	
		Range		4.00	
		Interquartile Range		1.0000	
		Skewness		-1.412	.269
		Kurtosis		.781	.532
	secondary	Mean		3.7388	.31512
		95% Confidence Interval for Mean	Lower Bound	3.1115	
			Upper Bound	4.3660	
		5% Trimmed Mean		3.6125	
		Median		4.0000	
		Variance		7.944	
		Std. Deviation		2.81850	
		Minimum		.00	
		Maximum		18.00	
		Range		18.00	
		Interquartile Range		4.2500	
		Skewness		1.544	.269
		Kurtosis		6.652	.532

Descriptives

	VICTIM			Statistic	Std. Error
CAUSAL	primary	Mean		2.8500	.14518
		95% Confidence Interval for Mean	Lower Bound	2.5610	
			Upper Bound	3.1390	
		5% Trimmed Mean		2.8264	
		Median		2.7500	
		Variance		1.686	
		Std. Deviation		1.29849	
		Minimum		1.00	
		Maximum		5.50	
		Range		4.50	
		Interquartile Range		2.0000	
		Skewness		.290	.269
		Kurtosis		-1.016	.532
	secondary	Mean		2.0625	.14625
		95% Confidence Interval for Mean	Lower Bound	1.7714	
			Upper Bound	2.3536	
		5% Trimmed Mean		1.9931	
		Median		2.0000	
		Variance		1.711	
		Std. Deviation		1.30814	
		Minimum		.00	
		Maximum		6.00	
		Range		6.00	
		Interquartile Range		1.8750	
		Skewness		.874	.269
		Kurtosis		.519	.532
SOLUTION	primary	Mean		5.6369	.14473
		95% Confidence Interval for Mean	Lower Bound	5.3488	
			Upper Bound	5.9249	
		5% Trimmed Mean		5.7250	
		Median		6.2500	
		Variance		1.676	
		Std. Deviation		1.29448	
		Minimum		2.25	
		Maximum		7.00	
		Range		4.75	
		Interquartile Range		2.0000	
		Skewness		-.837	.269
		Kurtosis		-.439	.532
	secondary	Mean		4.4751	.24104
		95% Confidence Interval for Mean	Lower Bound	3.9953	
			Upper Bound	4.9548	
		5% Trimmed Mean		4.5278	
		Median		5.0000	
		Variance		4.648	
		Std. Deviation		2.15589	
		Minimum		1.00	
		Maximum		7.00	
		Range		6.00	
		Interquartile Range		3.6875	
		Skewness		-.400	.269
		Kurtosis		-1.318	.532

ROLE

Stem-and-Leaf Plots

ROLE Stem-and-Leaf Plot for
VICTIM= primary

Frequency		Stem &	Leaf
14.00	Extremes		(=<4.5)
1.00		5 .	0
4.00		5 .	5555
5.00		6 .	00000
19.00		6 .	5555555555555555555
37.00		7 .	0000000000000000000000000000000000000

Stem width: 1.00
Each leaf: 1 case(s)

ROLE Stem-and-Leaf Plot for
VICTIM= secondary

Frequency		Stem &	Leaf
12.00		0 .	000000555555
8.00		1 .	00000005
14.00		2 .	00000000005555
4.00		3 .	0005
13.00		4 .	0000000005588
9.00		5 .	000055555
12.00		6 .	000055555555
7.00		7 .	0000000
1.00	Extremes		(>=18.0)

Stem width: 1.00
Each leaf: 1 case(s)

CAUSAL

Stem-and-Leaf Plots

CAUSAL Stem-and-Leaf Plot for
VICTIM= primary

Frequency	Stem &	Leaf
11.00	1 .	00000000000
4.00	1 .	5555
19.00	2 .	0000000000000000000
6.00	2 .	555555
13.00	3 .	0000000000000
2.00	3 .	55
12.00	4 .	000000000000
3.00	4 .	555
9.00	5 .	000000000
1.00	5 .	5

Stem width: 1.00
Each leaf: 1 case(s)

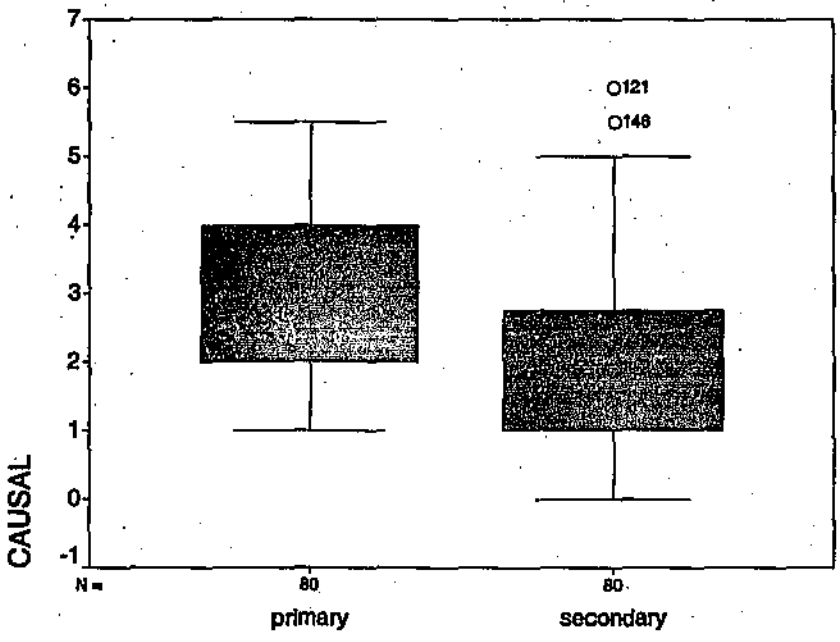
CAUSAL Stem-and-Leaf Plot for

VICTIM= secondary

Frequency	Stem &	Leaf
7.00	0 .	0000555
24.00	1 .	000000000000000000000055
29.00	2 .	00000000000000000000000005555
7.00	3 .	0000000
9.00	4 .	000000000
2.00	5 .	00
2.00	Extremes	(>=5.5)

Stem width: 1.00
Each leaf: 1 case(s)

Boxplots



SOLUTION

Stem-and-Leaf Plots

SOLUTION Stem-and-Leaf Plot for
VICTIM= primary

Frequency	Stem &	Leaf
2.00	2 .	25
7.00	3 .	0025777
12.00	4 .	000000002255
15.00	5 .	002225555555577
29.00	6 .	00022255555555555555555555557
15.00	7 .	000000000000000

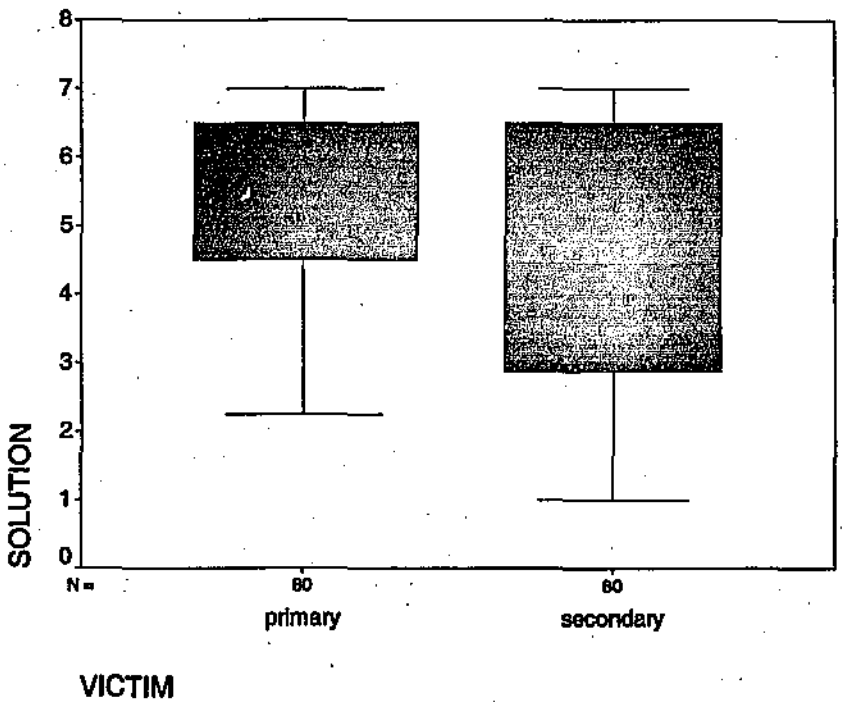
Stem width: 1.00
Each leaf: 1 case(s)

SOLUTION Stem-and-Leaf Plot for
VICTIM= secondary

Frequency	Stem &	Leaf
15.00	1 .	000000000000077
5.00	2 .	25777
15.00	3 .	000002255555778
3.00	4 .	055
9.00	5 .	000025557
26.00	6 .	22222223555555555557777778
7.00	7 .	0000000

Stem width: 1.00
Each leaf: 1 case(s)

Boxplots



AGENCY

Case Processing Summary

		Cases					
		Valid		Missing		Total	
	AGENCY	N	Percent	N	Percent	N	Percent
ROLE	individual	80	100.0%	0	.0%	80	100.0%
	group	80	100.0%	0	.0%	80	100.0%
CAUSAL	individual	80	100.0%	0	.0%	80	100.0%
	group	80	100.0%	0	.0%	80	100.0%
SOLUTION	individual	80	100.0%	0	.0%	80	100.0%
	group	80	100.0%	0	.0%	80	100.0%

Descriptives

	AGENCY			Statistic	Std. Error
ROLE	individual	Mean		5.0625	.23757
		95% Confidence Interval for Mean	Lower Bound	4.5896	
			Upper Bound	5.5354	
		5% Trimmed Mean		5.2222	
		Median		6.0000	
		Variance		4.515	
		Std. Deviation		2.12486	
		Minimum		.00	
		Maximum		7.00	
		Range		7.00	
		Interquartile Range		3.0000	
		Skewness		-.914	.269
		Kurtosis		-.335	.532
	group	Mean		4.8700	.31086
		95% Confidence Interval for Mean	Lower Bound	4.2512	
			Upper Bound	5.4888	
		5% Trimmed Mean		4.8625	
		Median		5.5000	
		Variance		7.731	
		Std. Deviation		2.78042	
		Minimum		.00	
		Maximum		18.00	
		Range		18.00	
		Interquartile Range		3.8750	
		Skewness		.794	.269
		Kurtosis		4.941	.532
CAUSAL	individual	Mean		2.6875	.15771
		95% Confidence Interval for Mean	Lower Bound	2.3736	
			Upper Bound	3.0014	
		5% Trimmed Mean		2.6597	
		Median		2.5000	
		Variance		1.990	
		Std. Deviation		1.41057	
		Minimum		.00	
		Maximum		6.00	
		Range		6.00	
		Interquartile Range		2.5000	
		Skewness		.244	.269
		Kurtosis		-.923	.532
	group	Mean		2.2250	.14201
		95% Confidence Interval for Mean	Lower Bound	1.9423	
			Upper Bound	2.5077	
		5% Trimmed Mean		2.1806	
		Median		2.0000	
		Variance		1.613	
		Std. Deviation		1.27015	
		Minimum		.00	
		Maximum		5.50	
		Range		5.50	
		Interquartile Range		2.0000	
		Skewness		.784	.269
		Kurtosis		.284	.532

Descriptives

	AGENCY			Statistic	Std. Error
SOLUTION	individual	Mean		4.7744	.22479
		95% Confidence Interval for Mean	Lower Bound	4.3269	
			Upper Bound	5.2218	
		5% Trimmed Mean		4.8639	
		Median		5.5000	
		Variance		4.043	
		Std. Deviation		2.01060	
		Minimum		1.00	
		Maximum		7.00	
		Range		6.00	
		Interquartile Range		3.1875	
		Skewness		-.853	.269
		Kurtosis		-.663	.532
	group	Mean		5.3376	.18721
		95% Confidence Interval for Mean	Lower Bound	4.9649	
			Upper Bound	5.7102	
		5% Trimmed Mean		5.4410	
		Median		6.1250	
		Variance		2.804	
		Std. Deviation		1.67448	
		Minimum		1.00	
		Maximum		7.00	
		Range		6.00	
		Interquartile Range		3.0375	
		Skewness		-.667	.269
		Kurtosis		-.869	.532

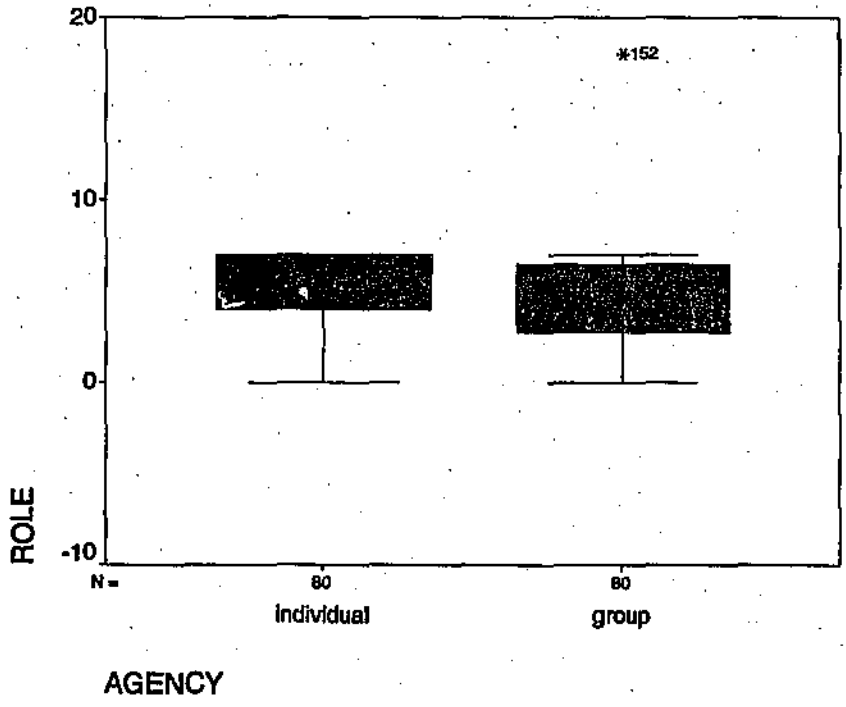
ROLE

Stem-and-Leaf Plots

```
ROLE Stem-and-Leaf Plot for
AGENCY= individual

 Frequency     Stem &  Leaf

     3.00        0 .  000
     4.00        1 .  0000
     7.00        2 .  0000000
     3.00        3 .  000
    13.00        4 .  0000000000555
     8.00        5 .  00005555
    16.00        6 .  0000000555555555
    26.00        7 .  00000000000000000000000000

 Stem width:      1.00
 Each leaf:       1 case(s)



ROLE Stem-and-Leaf Plot for
AGENCY= group

 Frequency     Stem &  Leaf

     9.00        0 .  000555555
     4.00        1 .  0005
```

```
   7.00          2 .  0005555
   4.00          3 .  0055
  11.00          4 .  00000555588
   6.00          5 .  055555
  20.00          6 .  00555555555555555555
  18.00          7 .  000000000000000000
   1.00 Extremes     (>=18.0)

Stem width:      1.00
Each leaf:       1 case(s)
```

Boxplots



CAUSAL

Stem-and-Leaf Plots

```
CAUSAL Stem-and-Leaf Plot for
AGENCY= individual

 Frequency     Stem &  Leaf

     3.00        0 .  055
    18.00        1 .  000000000000000555
    22.00        2 .  0000000000000000055555
    11.00        3 .  00000000055
    19.00        4 .  000000000000000555
     6.00        5 .  000005
     1.00        6 .  0

 Stem width:      1.00
 Each leaf:       1 case(s)
```

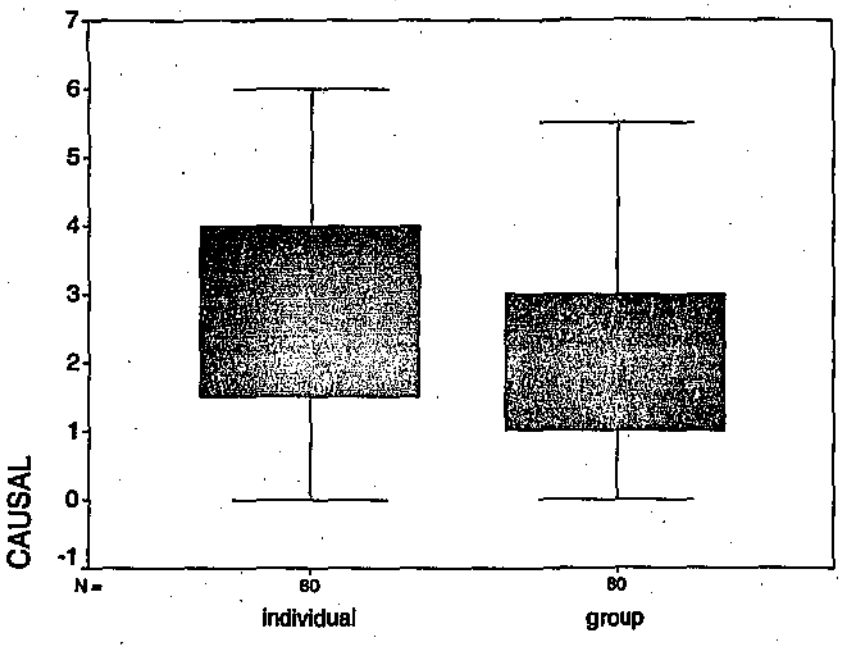
```
CAUSAL Stem-and-Leaf Plot for
```

AGENCY= group

Frequency	Stem &	Leaf
4.00	0 .	0005
21.00	1 .	000000000000000000555
32.00	2 .	00000000000000000000000000055555
11.00	3 .	00000000000
5.00	4 .	00000
7.00	5 .	0000005

Stem width: 1.00
Each leaf: 1 case(s)

Boxplots



SOLUTION

Stem-and-Leaf Plots

SOLUTION Stem-and-Leaf Plot for
AGENCY= individual

Frequency	Stem &	Leaf
13.00	1 .	0000000000007
1.00	2 .	5
7.00	3 .	0000025
9.00	4 .	000000025
14.00	5 .	00000255555557
33.00	6 .	002222222235555555555555555555577
3.00	7 .	000

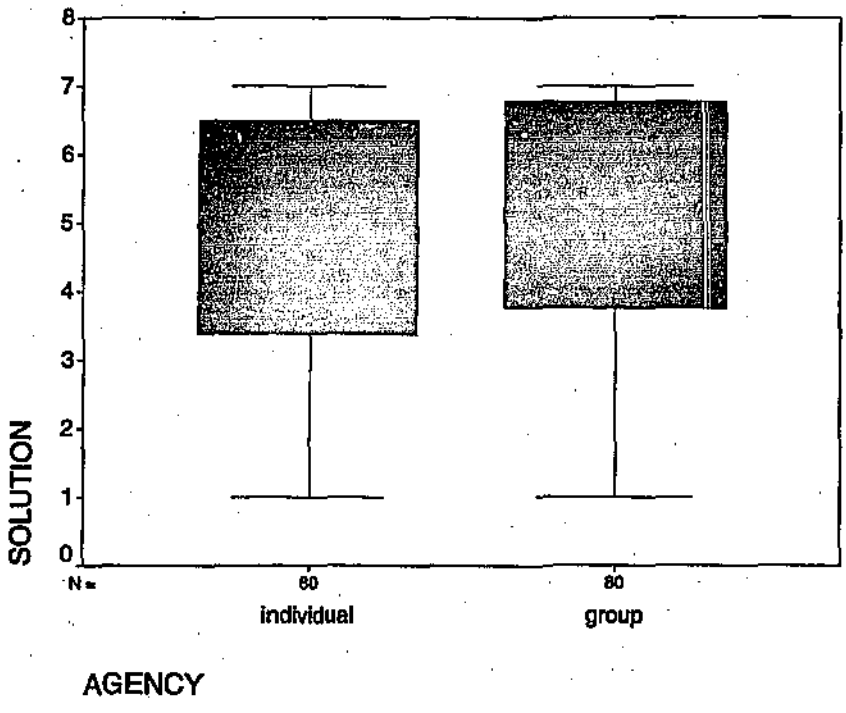
Stem width: 1.00
Each leaf: 1 case(s)

SOLUTION Stem-and-Leaf Plot for
AGENCY= group

Frequency	Stem &	Leaf
2.00	1 .	07
6.00	2 .	225777
15.00	3 .	002255555777778
6.00	4 .	002555
10.00	5 .	0222555577
22.00	6 .	0225555555555555777778
19.00	7 .	0000000000000000000

Stem width: 1.00
Each leaf: 1 case(s)

Boxplots



	solution	severity	victim	agency	insuranc	causal	role
1	4.50	1.00	1.00	1.00	4.00	4.00	6.50
2	2.50	1.00	1.00	1.00	4.00	1.00	7.00
3	5.50	1.00	1.00	1.00	4.00	3.50	7.00
4	4.00	1.00	1.00	1.00	4.00	5.50	7.00
5	5.50	1.00	1.00	1.00	4.00	4.00	5.50
6	6.50	1.00	1.00	1.00	5.00	1.50	7.00
7	5.50	1.00	1.00	1.00	5.00	2.50	6.50
8	3.25	1.00	1.00	1.00	5.00	4.50	7.00
9	4.25	1.00	1.00	1.00	5.00	1.50	6.60
10	5.50	1.00	1.00	1.00	3.00	4.50	6.80
11	5.50	1.00	1.00	1.00	3.00	3.50	7.00
12	4.00	1.00	1.00	1.00	3.00	2.50	4.00
13	6.00	1.00	1.00	1.00	3.00	4.50	7.00
14	6.50	1.00	1.00	1.00	4.00	2.50	7.00
15	5.50	1.00	1.00	1.00	4.00	1.50	7.00
16	6.50	1.00	1.00	1.00	4.00	2.00	6.50
17	6.50	1.00	1.00	1.00	4.00	1.00	6.50
18	6.25	1.00	1.00	1.00	4.00	2.00	3.00
19	5.00	1.00	1.00	1.00	4.00	2.00	7.00
20	4.00	1.00	1.00	1.00	4.00	1.00	6.50
21	4.50	1.00	1.00	2.00	4.00	2.00	4.00
22	2.25	1.00	1.00	2.00	4.00	1.00	7.00
23	5.25	1.00	1.00	2.00	4.00	1.50	6.00
24	3.75	1.00	1.00	2.00	5.00	5.00	6.50
25	5.25	1.00	1.00	2.00	5.00	2.50	6.50
26	6.25	1.00	1.00	2.00	5.00	2.00	6.50
27	5.75	1.00	1.00	2.00	5.00	5.00	6.50
28	3.75	1.00	1.00	2.00	5.00	2.00	6.50
29	4.25	1.00	1.00	2.00	5.00	1.00	6.50
30	5.25	1.00	1.00	2.00	5.00	2.00	6.50
31	5.75	1.00	1.00	2.00	4.00	2.00	4.00
32	3.75	1.00	1.00	2.00	4.00	5.00	4.00
33	6.00	1.00	1.00	2.00	4.00	3.00	6.50
34	6.50	1.00	1.00	2.00	4.00	1.00	6.50
35	5.50	1.00	1.00	2.00	6.00	5.00	7.00
36	6.50	1.00	1.00	2.00	6.00	2.00	3.00
37	6.25	1.00	1.00	2.00	3.00	1.00	6.50
38	6.70	1.00	1.00	2.00	3.00	3.00	6.50
39	5.00	1.00	1.00	2.00	4.00	4.00	3.50
40	4.00	1.00	1.00	2.00	4.00	4.00	7.00
41	1.00	1.00	2.00	1.00	5.00	1.00	1.00
42	1.00	1.00	2.00	1.00	5.00	1.00	2.00
43	5.00	1.00	2.00	1.00	5.00	3.00	5.00
44	1.00	1.00	2.00	1.00	5.00	.50	2.00

	solution	severity	victim	agency	insuranc	causal	role
45	3.00	1.00	2.00	1.00	5.00	2.00	1.00
46	1.00	1.00	2.00	1.00	6.00	2.00	1.00
47	1.00	1.00	2.00	1.00	6.00	1.00	1.00
48	5.00	1.00	2.00	1.00	6.00	2.00	2.00
49	1.00	1.00	2.00	1.00	6.00	.50	2.50
50	3.00	1.00	2.00	1.00	4.00	1.00	2.00
51	1.00	1.00	2.00	1.00	4.00	1.00	2.00
52	1.00	1.00	2.00	1.00	4.00	3.00	1.50
53	5.00	1.00	2.00	1.00	4.00	1.00	4.00
54	1.00	1.00	2.00	1.00	4.00	1.00	4.25
55	3.00	1.00	2.00	1.00	5.00	1.00	3.75
56	1.00	1.00	2.00	1.00	5.00	2.00	3.00
57	1.00	1.00	2.00	1.00	5.00	1.00	4.00
58	5.00	1.00	2.00	1.00	4.50	3.00	.05
59	1.00	1.00	2.00	1.00	5.50	2.00	.00
60	3.00	1.00	2.00	1.00	5.00	1.00	.00
61	2.50	1.00	2.00	2.00	4.00	1.00	2.50
62	4.50	1.00	2.00	2.00	4.00	2.00	1.50
63	5.50	1.00	2.00	2.00	4.00	2.00	1.00
64	3.50	1.00	2.00	2.00	4.00	1.00	.50
65	2.75	1.00	2.00	2.00	4.00	2.00	2.50
66	2.25	1.00	2.00	2.00	5.00	.00	2.00
67	3.26	1.00	2.00	2.00	5.00	2.00	2.50
68	3.75	1.00	2.00	2.00	5.00	2.00	.50
69	3.80	1.00	2.00	2.00	5.00	1.00	.50
70	2.75	1.00	2.00	2.00	3.00	2.00	1.00
71	3.50	1.00	2.00	2.00	3.00	.00	2.50
72	3.00	1.00	2.00	2.00	3.00	2.00	.00
73	3.75	1.00	2.00	2.00	3.00	2.00	.00
74	3.55	1.00	2.00	2.00	6.00	1.00	2.00
75	1.75	1.00	2.00	2.00	3.00	2.00	.50
76	2.75	1.00	2.00	2.00	6.00	.00	.00
77	3.50	1.00	2.00	2.00	3.00	2.00	2.00
78	3.25	1.00	2.00	2.00	4.00	2.00	.50
79	3.50	1.00	2.00	2.00	4.00	1.00	.50
80	1.00	1.00	2.00	2.00	4.00	2.00	1.00
81	4.00	2.00	1.00	1.00	5.00	2.00	7.00
82	7.00	2.00	1.00	1.00	5.00	3.00	7.00
83	6.00	2.00	1.00	1.00	5.00	2.50	4.00
84	6.50	2.00	1.00	1.00	4.00	4.00	7.00
85	6.50	2.00	1.00	1.00	5.00	3.00	6.00
86	6.50	2.00	1.00	1.00	5.00	4.00	7.00
87	6.50	2.00	1.00	1.00	5.00	5.00	6.50
88	6.50	2.00	1.00	1.00	5.00	3.00	5.00

	solution	severity	victim	agency	insuranc	causal	role
89	6.50	2.00	1.00	1.00	6.00	4.00	6.00
90	6.50	2.00	1.00	1.00	6.00	2.00	7.00
91	4.00	2.00	1.00	1.00	4.00	4.00	7.00
92	4.00	2.00	1.00	1.00	4.00	2.00	4.50
93	6.50	2.00	1.00	1.00	5.00	5.00	6.00
94	6.50	2.00	1.00	1.00	5.00	2.00	7.00
95	7.00	2.00	1.00	1.00	5.50	2.00	6.00
96	3.00	2.00	1.00	1.00	5.50	5.00	7.00
97	6.50	2.00	1.00	1.00	5.00	4.00	7.00
98	6.50	2.00	1.00	1.00	5.00	3.00	4.50
99	3.50	2.00	1.00	1.00	5.00	2.50	5.50
100	7.00	2.00	1.00	1.00	5.00	2.00	7.00
101	6.50	2.00	1.00	2.00	4.00	2.00	6.50
102	7.00	2.00	1.00	2.00	5.00	4.00	7.00
103	7.00	2.00	1.00	2.00	5.00	5.00	7.00
104	7.00	2.00	1.00	2.00	4.00	3.00	6.50
105	5.50	2.00	1.00	2.00	3.00	1.00	7.00
106	7.00	2.00	1.00	2.00	3.00	2.00	4.00
107	6.50	2.00	1.00	2.00	3.00	5.00	5.50
108	7.00	2.00	1.00	2.00	4.00	3.00	7.00
109	7.00	2.00	1.00	2.00	4.00	3.00	7.00
110	7.00	2.00	1.00	2.00	5.00	1.00	5.50
111	7.00	2.00	1.00	2.00	5.00	2.00	7.00
112	4.00	2.00	1.00	2.00	5.00	4.00	7.00
113	7.00	2.00	1.00	2.00	5.00	3.00	7.00
114	7.00	2.00	1.00	2.00	4.00	3.00	7.00
115	7.00	2.00	1.00	2.00	4.00	1.00	4.50
116	6.50	2.00	1.00	2.00	4.00	2.00	7.00
117	6.50	2.00	1.00	2.00	4.00	4.00	4.50
118	3.00	2.00	1.00	2.00	5.00	3.00	7.00
119	7.00	2.00	1.00	2.00	5.00	3.00	4.50
120	6.50	2.00	1.00	2.00	5.00	1.00	7.00
121	6.50	2.00	2.00	1.00	2.00	6.00	5.00
122	6.50	2.00	2.00	1.00	3.00	5.00	3.00
123	6.25	2.00	2.00	1.00	2.00	4.00	6.00
124	6.25	2.00	2.00	1.00	5.00	2.00	4.00
125	5.50	2.00	2.00	1.00	5.00	2.00	6.00
126	6.50	2.00	2.00	1.00	2.00	4.00	6.50
127	6.50	2.00	2.00	1.00	2.00	3.00	7.00
128	6.20	2.00	2.00	1.00	2.00	4.00	4.00
129	6.50	2.00	2.00	1.00	3.00	2.00	4.50
130	6.25	2.00	2.00	1.00	3.00	4.00	5.50
131	6.25	2.00	2.00	1.00	3.00	4.00	6.00
132	4.00	2.00	2.00	1.00	2.00	3.00	4.00